This Report has been cleared for submission to the Director by Programme Manager, Marie O'Connor

Signed: | ***Date: 15/02/2023***

OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE REVIEW, LICENCE REGISTER NUMBER W0287-02

TO: GERARD O'LEARY DIRECTOR

FROM: DAVID MATTHEWS	**DATE: 15/02/2023**

Applicant:	Ormonde Organics Limited
CRO number:	403413
Location/address:	Killowen, Portlaw, County Waterford
Application date:	30 June 2021

Classes of Activity (under EPA Act 1992 as amended):	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; 11.4(c) Notwithstanding clause (b), when the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day.
Category of activity under IED (2010/75/EU):	5.3 (b)(i) 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, and excluding activities covered by 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.
Main CID:	Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) for Waste Treatment, under Directive 2010/75/EU of the European Parliament and of the Council.

All relevant CIDs, BREF documents and National BAT notes are listed in the appendix of this report.

Activity description/background: A biological waste treatment installation, carrying out composting and anaerobic digestion, that proposes to increase the annual waste intake from 40,000 to 80,000 tonnes per annum.	
Additional information received:	Yes (05/08/22, 01/09/22, and 24/10/22)
No of submissions received:	2
Environmental Impact Assessment required: Yes	Stage 2 Appropriate Assessment required: Yes
Environmental Impact Assessment Report submitted (EIAR): Yes, 30/06/21	Natura Impact Statement (NIS) submitted: Yes, 30/06/21
Site visit: 28/06/22	Site notice check: 18/08/21

1. Introduction

Ormonde Organics Limited was granted an Industrial Emissions Licence, Reg. No. W0287-01 on the 13th October 2016 for the operation of a composting and anaerobic digestion (AD) installation at Killowen, Portlaw, County Waterford. The licence has not been technically amended. The installation comprises infrastructure for the acceptance, storage and treatment of biodegradable waste, and for the production of biogas, which will be used in a combined heat and power plant to produce heat and electricity (See Appendix 1). The installation has been in operation since 2007, when it was set up as a composting installation for sewage sludge. The anaerobic digestion process commenced later, in 2015. The licence boundary encompasses 6.3 hectares, and there are approximately 40 full time employees based at the installation.

Ormonde Organics Limited has applied to the Agency for a licence review, to increase the annual waste acceptance threshold from 40,000 tonnes to 80,000 tonnes per annum.

2. Description of activity

The installation is located along the R680 road, 3 km north-east of Portlaw (See Appendix 2). The surrounding area is primarily agricultural land. The site is bounded by agricultural land to the north, by an area of forest to the south and east, and by the R680 regional road to the west. The nearest residential dwelling is approximately 250 m north-east of the installation. The area of the site lies in a location of a former tannery, which operated under IPPC Licence Reg. No. P0238-01, which was granted by the EPA in 1998, and surrendered in 2015.

The licence boundary comprises of Building 1, which houses the composting waste reception area, enclosed forced aeration composting bays, maturation bay, and offices. Building 2 houses the AD waste reception area, packaged food debagging plant, digester feed line, and digestate pasteurisation tank. An annex to Building 1, houses staff welfare facilities, an office, and hot water header room; 3 No. above ground fully enclosed AD digesters; and 5 No. fully enclosed tanks (each 100 m^3) for the storage of incoming liquid waste for the AD plant, and a combined heat and power plant (CHP) comprising two biogas fired engines that generate electricity.

The compost process produces an end product that is spread on lands as a soil conditioner and fertiliser. The anaerobic digestion process generates a biogas and a liquid digestate. The biogas is used on-site as a renewable fuel to generate electricity, which is fed to the national electricity grid, or compressed and sent off-site for use as

a renewable fuel. The liquid digestate has a significant nutrient and soil enhancement value, and is applied to land.

Composting

Wastes intended for composting are off-loaded from the delivery vehicles inside Building 1. The waste is inspected, and any non-conforming materials, e.g., large pieces of timber and plastic are removed. The wastes are then mixed with woodchip, and loaded into one of nine dedicated concrete walled forced aeration compost bays, where they stay for a minimum of two weeks. The materials are then removed from the bay and mechanically screened, with the oversize sent back to the reception area. The screened material is then placed in a maturation tunnel, and temperature probes inserted. The probes are monitored to confirm that a temperature of at least 70°C has been achieved, for a minimum of 1 hour. The pasteurised material is removed from the tunnel, and then sent for land application.

Anaerobic Digestion

Liquid wastes are stored in above ground storage tanks located at the northern side (4 No.) and southern side (1 No.) of Building 2, from where the contents are pumped to the digesters. Packaged solid food wastes are debagged inside Building 2, and the contents mixed with water/liquid waste to facilitate transfer to the digesters. The liquid waste/water used in the process is stored in two tanks adjacent to the southern side of the building. The contents of the digesters are continuously agitated, and maintained at an optimum temperature of 37 to 40°C. It takes approximately 60 days for each batch to complete the digestion. The end products are biogas and digestate. The biogas is drawn off to the CHP plant. The biogas consists largely of methane and carbon dioxide, but also contains a small amount of hydrogen sulphide and ammonia, as well as traces of other gases. The biogas is treated to reduce the levels of ammonia and hydrogen sulphide, before it is used as a fuel in the two gas engines in the CHP plant. A gas flare is provided as a back–up for when the gas engines are shut down for routine servicing. Biogas can also be bottled in an on-site bottling plant, and then sent off-site. Planning permission has been granted for the installation of a biogas scrubbing plant that will reduce the levels of carbon dioxide to a point where the biogas can be exported to the national gas grid. The digestate is transferred to a pasteurisation tank, where the temperature is raised to 70°C for a minimum of one hour. The digestate has a significant nutrient and soil enhancement value, and after pasteurisation, it is sent off site for application to agricultural lands.

Scope of Review

The licensee has applied for a review of their licence to increase the annual waste intake from 40,000 tonnes to 80,000 tonnes per annum. This will involve the provision of the following infrastructure:

- a feedstock bunker building to the south of the anaerobic digestion intake building and the relocation of an existing liquid feed tank;
- an additional odour abatement unit;
- a maturation building, and canopy to the south of the compost building;
- one new digester, and new digestate storage tank;
- additional storm water attenuation capacity, the widening of internal access road to the AD plant, paving approximately 250 m^2 of ground, extending the existing bund wall, and installing a 2.4 m high perimeter fence around the installation.

In addition to above, the licensee has requested that the reference oxygen value used in the calculation of emissions to air from the CHP plants be amended from 3% to 15%. The licensee has also requested a reduction in the volumetric flow of air being emitted from the biofilters from 50,000 m^3/hr to either 10,000 m^3/hr or 40,000 m^3/hr (depending on the biofilter), and an increase in the volumetric flow from the CHP Gas Engines from 3,000 m^3/hr to 8,500 m^3/hr.

3. Planning Status

A number of planning applications have been made by the licensee for the area within the installation boundary since 2006. Details of these relevant planning applications and permissions have been provided in the application form. The most relevant planning permissions are summarised in Table 1 below.

Table 1. Details of the relevant planning permissions granted for the area within the installation boundary.

Planning Reference No.	**Date of grant of permission**	**Purpose of planning application**
PD 20/761	11/05/21	Increase in waste acceptance from 40,000 to 80,000 tonnes per annum, and construction of site infrastructure.
PD 19/296	24/10/19	Installation of biogas scrubbing and compression unit, biogas grid entry unit and compressor unit, and associated pipes to facilitate the export of biogas to the national grid.
PD 19/120	28/05/19	Retention granted for site infrastructure, including biofilter and anaerobic digestor tank.
PD 11/455 (ABP Ref. PL 24.240543)	05/04/12	Upgrade and extension of an existing composting installation, and construction of anaerobic digestion plant. Increase in site area to 5.7 hectares.
PD 11/392	06/03/11	Acceptance of 13 new waste types on-site.
PD 04/183 (ABP Ref. PL 24.215781	05/12/05	Construction of composting installation on 3.2 ha site, for the acceptance of four types of segregated organic waste.

The licensee has submitted the EIAR associated with planning permission reference no. PD 20/761. Having reviewed the planner's reports for previous planning permissions, it is considered that the EIAR submitted with the licence application, contains adequate information to inform the Agency's assessment and the EIS relating to the previous planning permission ref. no. 11/455 is not required for the Agency's assessment.

The Agency has had regard to the reasoned conclusions reached by the planning authority in undertaking its environmental impact assessment of the activity.

4. EIA Screening

In accordance with Section 83(2A) of the EPA Act 1992, as amended (hereafter referred to as the EPA Act), the Agency must ensure that before a licence or revised licence is granted, that the application is made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in Section 83(2A)(b) and 83(2A)(c).

In accordance with the EIA Screening Determination, the Agency has determined that the activity is likely to have a significant effect on the environment, and accordingly is carrying out an assessment for the purposes of EIA.

This determination has been made having regard to the following: The changes to the activity exceed the threshold of project type 13 changes, extension, development and testing in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 as amended,
13 (a) Any change or extension of development which would:

(i) result in the development being of a class listed in Part 1 or Paragraphs 1 to 12 of this Schedule, and
(ii) result in an increase in size greater than
- 25 per cent, or
- an amount equal to 50 per cent of the appropriate threshold, whichever is the greater.

An EIAR was submitted to the Agency as part of the application on 02/07/21. This is dealt with in the EIA Section later in this report.

5. Best Available Techniques

Best Available Techniques (BAT) for the installation was assessed against the BAT conclusions contained in the Commission Implementing Decision on Waste Treatment, CID (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) for Waste Treatment, under Directive 2010/75/EU of the European Parliament and of the Council, and in any other relevant BREF documents specified in the appendices of this report. A BAT assessment was carried out by the licensee, and is included in Section 4.7 of the application form, and in Appendix 1 of the licensee's response to a Regulation 10(2)(b)(ii) letter, received on the 4th August 2022.

Additional conditions to be incorporated into the RD to address BAT Conclusions are detailed in Appendix 6 of this report. Any relevant BAT-AELs are specified in the emissions sections of this report.

I consider that the applicable BAT Conclusion requirements are addressed through the technologies and techniques as described in the application, as well as the conditions and limits specified in the RD.

6. Emissions

6.1 Emissions to Air

This section addresses emissions to air from the installation, and the environmental impact of those emissions.

6.1.1 **Channelled Emissions to Air**

There are a number of main channelled emissions points at the installation, both proposed and existing, relating to CHP gas engines, biofilters, and a gas flare. Full details are specified in attachment 7.4.1 - Emissions to Atmosphere of the application form, and in the licensee's response to the Agency's Regulation 10(2)(b) letter, received on 4th August 2022. The licensee has not suggested any changes to the emission limit values (ELVs) currently in place for existing emission points, with the exception of the ELV for odour at the AEP-8 biofilter, which they want to increase from 700 OuE/m^3 to 1,000 OuE/m^3. Based on results from the air dispersion model, the licensee has also requested a reduction in the volumetric flow of air being emitted from each of the biofilters from 50,000 m^3/hr to either 10,000 m^3/hr or 40,000 m^3/hr (depending on the biofilter), and an increase in the volumetric flow from the CHP Gas Engines from 3,000 m^3/hr to 8,500 m^3/hr.

There are three existing biofilters (AEP-5, AEP-7, and AEP-8) and one proposed biofilter (AEP-9). The biofilters are the main odour abatement units. AEP-5 and AEP-8 are used to treat odour emissions from the composting process, and AEP-7 treats emissions from the anaerobic digestion process. The proposed biofilter (AEP-9) will be used to treat odour emissions from the anaerobic digestion process.

There are two existing CHP Plant Gas Engines (AEP-1 and AEP-2). Authorisation for a third CHP Gas Engine (AEP-3) was given in the existing licence (W0287-01), but the third CHP Gas Engine was never installed by the licensee. The licensee has requested that AEP-3 is retained in the revised licence, to accommodate increased gas production rates. There is a standby gas flare (AEP-4), which is only used in the event that the CHP plant is undergoing maintenance.

There is an air emission point at the gas bottling plant (A3-1), from the biogas upgrade unit, which is used to remove carbon dioxide (CO_2) from the biogas. Full details are specified in attachment 7.4.2 - Emissions to Air, included in the licensee's response to a Regulation 10(2)(b) letter, received on the 1st September 2022. The biogas upgrade unit removes CO_2 from the biogas, by using membrane separation technology, and the CO_2 is then vented to atmosphere. The emission point from the biogas upgrade unit is considered by the licensee to be a minor emission point, but it has been requested by the OEE that the setting of an ELV for CO_2 be examined under this review. In terms of setting an appropriate ELV for CO_2, the emission point from the biogas upgrade unit is considered to be a minor emission point, and the Waste Treatment CID does not set an ELV for CO_2 emissions to air from biogas scrubbers. It is therefore not proposed to set an ELV for CO_2 in the RD. It is considered necessary however, that monitoring of the emissions from the biogas upgrade unit be carried out. Therefore, it is proposed to include monitoring of CO_2 and VOCs from the biogas upgrade unit on an annual basis in *Schedule C.1.2 Monitoring of Emissions to Air* of the RD.

As part of the licence review, the licensee has requested to amend Condition 4.2.2 of the existing licence, which stipulates that the reference value for oxygen used in the calculation of concentration and volume flow emissions shall be 3% for liquid and gas fuels. The licensee outlined that the 3% oxygen value for gas fuels is not consistent with the requirements of Part 2 of Annex V of the Industrial Emissions Directive (2010/75/EU), and considered the 3% value to be a clerical error. The licensee has requested a value of 15% reference oxygen instead. A Compliance Investigation, which is now closed, was opened by the OEE for non-compliances with the Emission Limit Values stipulated in the current licence, for the two CHP plant gas engines (AEP-1 and AEP-2). The licensee has outlined that the non-compliances were due to the

incorrect oxygen reference value being stipulated in the existing licence, and that a reference oxygen value of 15% in the revised licence will result in compliance with the emission limit values for the two CHP Gas Plant Engines.

Part 2 of Annex V of the Industrial Emissions Directive (2010/75/EU) is not applicable to this licence in this instance, as this Annex is only applicable to Large Combustion Plants (LCP), with a thermal input >50 MW. Instead, the *European Union (Medium Combustion Plants) Regulations 2017* (S.I. No. 595 of 2017) are applicable in this instance, as these regulations apply to combustion plants with a rated thermal input equal to or greater than 1 MW and less than 50 MW, which is the category of combustion plant that the CHP Plant Gas Engines used by the licensee fall into. Schedule 2 of the MCP Regs outlines what reference oxygen conditions are to be used for the determination of emission results. It stipulates a reference oxygen value of 15% for engines and gas turbines. The CHP Plant Gas Engines used by the licensee fall into the "engines and turbines" category. Therefore, the RD specifies a reference oxygen value of 15%, in accordance with the MCP Regulations.

As part of the application, air dispersion modelling was carried out to predict the ambient pollutant concentrations resulting from all main emissions. The modelling carried out was in accordance with published Agency guidance, and was considered sufficiently detailed and conservative to assess the impact of the main emissions to air. The parameters modelled included carbon monoxide, nitrogen oxides, sulphur dioxide, total non-methane volatile organic carbon (TNMVOC) as benzene, and odour, on all existing and proposed main emission points. Odour emissions are discussed in detail in section 6.1.3. Emissions to the atmosphere from the specified emission points were assumed to occur 24 hours each day, 7 days per week, over a standard year at 100% output. This included AEP4, which is a flare that only operates for a period of between 1% to 3% a year. The table below gives details of the predicted impact of the existing and proposed main channelled emissions to air at the worst-case sensitive receptor.

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration ($\mu g/m^3$)	Process contribution to PEC ($\mu g/m^3$)	Predicted Environmental Concentration (PEC) ($\mu g/m^3$)	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines ($\mu g/m^3$) Note 1
Nitrogen Oxides (as NO_2)	99.8%ile hourly	15.2	77.3	92.5	46.3	200
Nitrogen Oxides (as NO_2)	Annual	7.6	1.75	9.35	23.4	40
SO_2	1 hour (99.73%ile)	8.3	27.0	35.3	10.1	350
SO_2	24 hour (99.18%ile)	4.2	5.4	9.6	7.7	125
SO_2	Annual	4.15	0.63	4.78	23.9	20
Carbon monoxide (CO)	Maximum 8 hour	400	293.8	694	6.9	10,000
TNMVOC as benzene	Annual	0.28	0.66	0.94	18.7	5

Note 1: Air Quality Standards Regulations, SI 58/2009 and 180/2011, unless otherwise stated.

The air dispersion model didn't take into consideration the air quality standard for the protection of ecosystems from oxides of nitrogen specified in Schedule 13 of the Air Quality Standards Regulations 2011. The quality standard sets a limit of 30 µg/m^3 as an annual average for oxides of nitrogen as a critical level for the protection of ecosystems. It is clear from the table above that an annual average of 30µg/m^3 is not exceeded (9.35 µg/m^3).

The results of the modelling indicate that the emissions from the installation will not result in any significant impact on air quality in the surrounding area. This is based on the conservative assumptions used in the model. The model also considered the changes requested to increase the hourly volumetric flow limits for all four of the CHP Plant Gas Engines, from 3,000 m^3/hr to 8,500 m^3/hr. All predicted environmental concentrations of pollutants will be well within their respective air quality standards or guidelines.

To limit the air emissions from the point sources across the installation*, Schedule B.1 Emissions to Air* of the RD includes emission limit values for emissions from all scheduled emission points. The emission limit values are based on what was modelled by the licensee. *Schedule C.1.2 Monitoring of Emissions to Air* of the RD stipulates the monitoring requirements for these emission points.

The CHP Plant Gas Engines are classified as medium combustion plants in accordance with the European Union (Medium Combustion Plants) Regulations 2017 (S.I. No. 595 of 2017). These Regulations set emission limit values for nitrogen oxides and sulphur dioxide, and the dates by which they will become applicable for existing plant. *Schedule B.1 Emissions to Air* of the RD reflects the requirements of the Directive and provides different ELVs on different implementation dates, depending on whether the combustion plant, is defined as an "existing combustion plant" or a "new combustion plant". For the existing CHP Gas Plant Engines (AEP-1 and AEP-2), *Schedule B.1 Emissions to Air* of the RD stipulates an ELV for Nitrogen oxides (as NO_2) of 500 mg/m^3 and an ELV for Sulphur dioxide (as SO_2) of 300 mg/m^3, which are both applicable until 31st December 2029. ELVs of 190 mg/m^3 for Nitrogen oxides (as NO_2) and 60 mg/m^3 for Sulphur dioxide (as SO_2) are applicable from the 1st January 2030. The proposed CHP Gas Plant (AEP-3) has not yet been built, and therefore the ELVs specified in the MCP Regs for new combustion plants are applicable. The RD specifies ELVs of 190 mg/m^3 for Nitrogen oxides (as NO_2), and 40 mg/m^3 for Sulphur dioxide (as SO_2), which are applicable from the date of commencement of AEP-3. The ELVs for Carbon monoxide, Total VOCs, and Total non-methane VOCs remain unchanged from the existing licence. The hourly volumetric flow limits from all four CHP Gas Engines has been increased from 3,000 m^3/hr to 8,500 m^3/hr.

6.1.2 **Dust**

To counter the potential for fugitive emissions of dust, all waste storage and processing takes place indoors. Negative building pressure, extraction of building air and treatment of the extracted air are already in place, and are required conditions in the RD. There is no untreated extraction air vented to atmosphere. Dust generation is associated mainly with vehicle movements within the installation during dry weather. No complaints regarding dust have been received by the EPA.

Condition 3 of the RD sets requirements in relation to dust abatement. The RD includes also a limit for dust deposition (Schedule B.5) and requires dust deposition monitoring to be carried out on a quarterly basis.

6.1.3 **Odour**

The main sources of odour from the installation will be the emissions from the three existing biofilters and the one proposed biofilter. The biofilters treat extracted air from the composting and the anaerobic digestion processes. The processing and storage of waste will take place indoors. There is no outdoor storage area at the installation. The waste reception buildings have roller shutter doors and are kept under negative air pressure. These measures will serve to minimise the escape of odour emissions. Odorous gases from the waste reception building and the process buildings will be extracted by fans and passed through bio-filters for treatment, prior to final discharge.

Previous monitoring of emissions to air on the three existing biofilters, carried out by both the licensee and the Agency, has shown that they can comply with the emission limit values required in the existing licence. The Commission Implementing Decision (CID) 2018/1147 on Waste Treatment, requires odour emissions in treated exhaust gas from a biological treatment plant to be in the range of 200 – 1000 Ou_E/m^3.

The EPA has received two complaints regarding odour in relation to the installation, one in 2017, and one in 2020. A new roller door was installed in 2020 on the waste reception building to resolve the complaints, and no new odour complaints have been received since then.

The worst-case impact of odour emissions was modelled for odour impact at sixteen receptors in the air dispersion model submitted by the licensee. The AERMOD prime model was used and the licensee followed the methodology outlined in the Agency Guidance Note AG4[1]. The table below gives details of the predicted impact of odour of the existing and proposed main channelled emissions to air at the worst-case sensitive receptor.

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m³)	Process contribution to PEC (µg/m³)	Predicted Environmental Concentration (PEC) (µg/m³)	PEC as % of Air Quality Standard	Air Quality Guidelines (µg/m³) Note 1
Odour	1 hour (98%ile)	0 OuE/m³	1.08 OuE/m³	1.08 OuE/m³	71.7 OuE/m³	1.5 OuE/m³

The odour emission concentration chosen for modelling, of 1,000 OU_E/m^3, is at the upper end of the range of 200 – 1,000 OU_E/m^3, which is specified in BAT 34 of the CID (2018/1147), relating to biological treatment of waste. The applicant proposed the use of the ambient standard of 1.5 OU_E/m^3, which according to Agency Guidance Note AG4, relates to an installation which would be considered to have a high level of relative odour offensiveness. The assessment took account of sixteen sensitive receptors within the vicinity of the installation. The model predicted the highest ground level odour impact of 1.08 OU_E/m^3 at the receptor R12, approximately 250m to the

[1] Air Dispersion Modelling from industrial Installations Guidance Note (AG4), EPA 2019.

north-west of the anaerobic digestion building. This result was below the threshold of 1.5 OU_E/m^3. The predicted odour results at all of the other fifteen sensitive receptors was <1 OU_E/m^3. The ELV for odour in the existing licence (W0287-01) is 1,000 OU_E/m^3 for the AEP-5 and AEP-7 biofilters, but 700 Ou_E/m^3 for the AEP-8 biofilter. Based on the results of the modelling, the licensee has requested that the ELV for the AEP-8 biofilter be increased from 700 Ou_E/m^3 to 1,000 Ou_E/m^3, in line with the ELV for odour at the other biofilters. An ELV of 1,000 Ou_E/m^3 is in line with the upper end of the range given in quirements of the Waste Treatment CID. The results of the Air Dispersion Model indicate that this higher ELV will not result in the installation causing an impact on the sensitive receptors off-site. However, recent Agency air emission monitoring results have shown that the licensee is complying with the current lower ELV of 700 Ou_E/m^3 at AEP-8. Therefore it is not proposed to increase the ELV to 1000 Ou_E/m^3 at AEP-8. The RD stipulates an ELV of 1,000 Ou_E/m^3 for the AEP-5, AEP-7, and AEP-9 biofilters, and an ELV of 700 Ou_E/m^3 at the AEP-8 biofilter (*Schedule B.1 Emissions to Air*).

The model has predicted that all sensitive receptors in the vicinity of the installation will perceive an odour concentration less than 1.50 Ou_E/m^3 at the 98th percentile of hourly averages, as long as a number of high level key mitigation measures are implemented. These include:

- All new buildings are fitted with a high integrity building fabric;
- The installation buildings are capable of attaining a negative pressure;
- All sumps, tanks, etc. are sealed with tight fitting high containment efficiency covers, so as to prevent the release of odours from such processes;
- All mechanical processes within the pre-treatment building are placed under appropriate negative pressure, so as to ensure no significant odour release to the headspace of the building;
- All buildings are fitted with appropriate roller doors;
- All buildings / processes holding or processing material, with the potential to generate odours, are placed under negative ventilation with all odorous air ducted to an appropriate odour control system for treatment;
- The odour control systems are capable of providing treatment of odorous air to a level of less than 1,000 OuE/m^3 in the treated exhaust air stream;
- With regards to the existing and proposed biofiltration odour control systems, these shall be covered and fitted with an exhaust stack to aid dispersion. The exhaust stack height shall be a minimum of 15m;
- An odour management plan has been developed for the operating installation, so as to ensure adequate operation of all odour management systems on a day to day basis.

All of the above mitigation measures are already in place for the existing composting and anaerobic digestion operations, with the exception of covers and stacks on the biofilters. Condition 3 in the RD specifies that the existing and proposed biofiltration odour control systems shall be covered and fitted with an exhaust stack to aid dispersion. The RD has the following odour control conditions:

- All buildings for the storage or treatment of residual, food and odour-forming waste shall be maintained at negative air pressure (Condition 3);

- Liquid waste inputs and liquid residues from the biological treatment processes shall be stored in sealed tanks or vessels that are vented to the odour control system (Condition 3);
- Fast action roller shutter doors shall be installed on all entry/exit points used by waste vehicles (Condition 3);
- Emissions of odour from all biofilters must comply with an ELV of 1,000 OuE/m^3 for the two existing biofilters (AEP-5, and AEP-7), and one proposed biofilter (AEP-9), and an ELV of 700 OuE/m^3 for the existing AEP-8 biofilter (*Schedule B.1 Emissions to Air*);
- An Odour Management Plan shall be prepared in accordance with BAT 12 of CID 201 8/1147 (Condition 6).

Condition 5 of the RD prohibits the licensee from allowing a nuisance to be caused by odour emissions from the installation.

6.2 Emissions to Water/Ground/Sewer

6.2.1 **Emissions to Surface Waters**

There are no process emissions to surface waters at the installation.

6.2.2 **Emissions to ground/groundwater**

There are no process emissions to ground/groundwater at the installation.

6.2.3 **Emissions to Sewer**

There are no emissions to sewer at the installation.

6.2.4 **Other emissions to ground/groundwater**

There is an existing septic tank and percolation area on site for the treatment of sanitary effluent. The RD includes a standard condition which requires the licensee to provide and maintain a wastewater treatment plant for the treatment of sanitary effluent, and requires the wastewater treatment system and percolation area to satisfy the criteria set out in the Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. ≤ 10) published by the EPA. In their application, the licensee states that all sanitary effluent is put back into the anaerobic digestion process. This activity, however, is not catered for in the existing licence, and has not been approved by OEE. As a result, a new condition has been included in the RD requiring all sanitary effluent to be tankered off-site, unless otherwise approved by the Agency (Condition 3).

The licensee has stated that there was known historical soil and groundwater contamination at the installation. The contamination was a result of the disposal of animal carcasses into a waste trench at the installation by the former licensee, Michell Ireland Limited. Ultimately, it was confirmed that the buried carcasses were not causing significant impacts to the environment, and on this basis, no remedial works were considered necessary. Further details are given in Section 10. Cessation of Activity.

The monitoring results from the two groundwater monitoring wells from 2020 show a relatively good water quality with regard to the Groundwater Threshold Values (GTVs)

specified in the Groundwater Regulations 2010, as amended. No GTVs were breached, and there is no indication that on-site activities are causing pollution. Furthermore, and in accordance with the requirements of the IED, the RD requires biannual groundwater monitoring for a range of parameters. Monitoring for hazardous substances is required for groundwater and every ten years for soil.

6.3 Storm water discharges

The table below gives details on the installation's storm water discharges to waters; the sources of potential contamination of these discharges, the type of on-site abatement, as well as details of the receiving water.

Stormwater discharge point details					
Emission Reference	Monitored parameters (monitoring frequency)	Abatement	Drainage areas	Discharging to	Trigger levels established (Y/N)
SW1	pH TOC Suspended Solids Mineral Oil Sulphate Total Ammonia Total Nitrogen Conductivity (all above parameters quarterly) Visual Inspection (daily)	Oil interceptor (in place)	Building roofs, car park, and yard areas.	River Suir	N
Automatic diversion in place:	Yes				

Stormwater is directed via an oil interceptor into a storm water retention pond (224 m^3 capacity) fitted with a flow restrictor at the outlet, to limit the flow to 10.9 litres/second to a storm water sump that discharges to the River Suir. The sump is fitted with a shut-off valve that when closed, contains storm water within the site.

The RD requires the licensee to maintain the storm water/drainage system. The RD also requires that the storm water discharge is visually inspected daily, and monitored for pH, TOC, Suspended Solids, Mineral Oil, Sulphate, Total Ammonia, Total Nitrogen, and Conductivity quarterly, in accordance with *Schedule C.2.3 Monitoring of Storm Water Emissions.*

Only uncontaminated storm water may be discharged to surface water (Condition 5 of the RD). The existing licence (W0287-01) requires trigger levels to be established for TOC, total ammonia and suspended solids, however, these were not approved by OEE, so Condition 6 of the RD requires trigger levels for TOC, ammonia and suspended solids to be established.

The RD contains standard conditions in relation to the storage and management of materials and wastes. The RD also requires that accident and emergency response

procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Prevention of Accidents section later in this report.

6.4 Noise

The main sources of noise at the installation include vehicles, machines, gas engines, a gas flare and other equipment in operation at the installation. The lands surrounding the site are used for agricultural purposes, and the area immediately east and south of the site are planted with deciduous trees. The nearest dwellings are along the R680 road, and the closest house is 260 m from Building 1. There is a farm 290 m to the west, and a commercial orchard 430 m to the south of the site entrance.

As part of the existing licence, a noise monitoring survey is carried out annually at four individual installation boundary locations. Further monitoring at two noise sensitive locations outside the site boundary was requested by OEE. Historical data from these surveys indicate that the installation is consistently compliant with the licence limits. There has been no history of noise complaints, in recent years, at the installation.

Noise conditions and emission limit values, which apply at the two noise sensitive locations, have been included in the RD.

7. Waste generation

The installation will accept and process biodegradable waste to maximise energy recovery through the production of renewable energy and fertiliser. Biogas from the AD plant will be utilised to produce renewable energy.

Where digestate is produced, and meets the requirement of an agreed quality standard, as specified in *Schedule F*, it can be used as a fertiliser. Provision is made in the RD to demonstrate compliance with an alternative quality standard and in compliance with the EU Fertiliser Regulation (2019/1009), as appropriate. However, where the digestate produced cannot be demonstrated to comply with the standard specified in *Schedule F* or an alternative quality standard (and in compliance with the EU Fertiliser Regulation (2019/1009), as appropriate), it will remain classified as a bio-stabilised residual waste, and subject to the controls included in Condition 8 of the RD. Condition 8 provides for the management of waste, including digestate that does not meet the approved quality standard. Condition 8 of the RD requires that bio-stabilised residual waste be sent to landfill unless otherwise approved by the Agency.

Sampling and testing for compliance with digestate standards as specified in *Schedule F* will take place and Condition 8 specifies the frequency and nature of this monitoring.

The welfare facilities and office generate small amounts of food waste, plastic, and paper. The expired food debagging plant generates waste packaging. The composting of the "brown bin" waste generates residual wastes, primarily plastics that are inadvertently placed in the brown bins by householders. All non-biodegradable wastes are sent off-site for treatment at authorised waste management facilities, where the non-recyclable plastics are processed to produce Refuse Derived Fuel.

As evidenced in attachment 8.1 – Waste Hierarchy of the licence review application, and in accordance with the hierarchy specified in the IED, waste generated at the site

will, in order of priority, be minimised, be prepared for re-use, recycling, recovery or disposal.

8. Energy Efficiency and Resource Use

The operation of the installation involves the consumption of electricity. The estimated quantities used in 2020 are given below.

Resource	Quantity per annum
Electricity	2,515 MWH
Water	3,100 m^3

The water used at the installation includes 2,600 m^3 of abstracted groundwater. Electricity generated in the CHP plant is exported to the national grid, and is not used on-site. 8,616 MWH were exported to the grid in 2020.

In the application of BAT, Condition 7 of the licence provides for the efficient use of resources and energy in all site operations. It requires an energy audit to be carried out, and the recommendations of the audit to be incorporated into the Schedule of Environmental Objectives and Targets, as outlined in Condition 2 of the licence.

9. Prevention of Accidents

A certain amount of accident risk is associated with the licensable activity. The licensee completed an assessment of the likely effects of major accidents. The most likely major accident is a fire. To mitigate the risk of a fire, the amount of combustible solid material on site, at any one time, is kept to a minimum. The table below specifies the potential accidents/emergencies relevant to the activities and outlines the measures for the prevention and limitation of environmental consequence.

Potential accidents & measures for prevention/limitation of consequences	
Potential for an accident or hazardous/ emergency situation to arise from activities at the installation.	• Potential for fire due to the quantity and characteristics of the waste stored at the installation; • Accidental spillage/leakage of oil or other liquids from waste stored or vehicles at the installation; • Infiltration to ground in the event of accidental leakages of waste liquids.
Preventative/Mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation.	• Requirement for bunding of tank, container and drum storage areas (Condition 3); • Silt traps and oil separators for storm water arising from within the installation (Condition 3); • Fire risk assessment (Condition 9); • Training of staff (Condition 2).

Potential accidents & measures for prevention/limitation of consequences	
Additional measures provided for in the RD.	• Accident prevention and emergency response requirements (Condition 9); • Integrity of tanks to be assessed every 3 years and maintenance carried out as required (Condition 6); • Storm water discharge points to be visually monitored (Condition 6); • Firewater retention risk assessment (Condition 3).

Condition 9 of the RD requires procedures to be put in place to prevent accidents with a possible impact on the environment, and to respond to emergencies so as to minimise the impact on the environment.

10. Cessation of Activity

A certain amount of environmental risk is associated with the cessation of any licensable activity (site closure). For this installation, the main considerations relate to buildings, wastes, plant and equipment. Condition 10 of the RD requires the proper closure of the activity with the aim of protecting the environment.

Baseline Report

Where an activity involves the use, production or release of Relevant Hazardous Substances, and having regard to the possibility of soil and groundwater contamination at the site of the installation, the IED requires operators to prepare a baseline report. A baseline report was submitted by the licensee, as part of the first licence application in 2015 (W0287-01). An updated Baseline Report was submitted with the licence review application (Attachment 4-8 Baseline Assessment), in accordance with Stages 1 to 3 of European Commission Guidance[2].

The report states that the installation is located on the site of a former tannery (Michell Ireland), which opened in 1993. In 1998, this installation was granted an Integrated Pollution Control (IPC) Licence, registration number P0238-01. Michell Ireland processed approximately 9,000 bovine hides per week. IPC Licence Reg. No. P0238-01 was surrendered in 2015. The Baseline Report submitted took into consideration the Independent Closure Audit of the IPC Licence. The report details the historic contamination at the eastern area of the installation. In 2001, approximately 20 tonnes of animal carcasses were buried in a trench behind the tank farm on site. This happened during the foot and mouth outbreak in 2001, due to the absence of a viable disposal outlet for the material. The Agency carried out a geophysical survey of the waste trench area in 2012. The result of the survey showed a suspected plume of contaminant immediately down-gradient of the waste trench. Assessment of groundwater monitoring data between 2012 – 2014 confirmed that the animal waste trench, and suspected plume of contamination were not causing significant impacts to the environment, namely surface water and groundwater in the underlying limestone. On this basis, no remedial works were considered necessary, and the Agency accepted the surrender of IPC Licence Reg. No. P0238-01 in 2015.

[2] European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions.

The Baseline Report refers to data from 2020 groundwater analysis, as required under the current licence. The groundwater monitoring results confirm that the groundwater quality beneath the installation is good. The bedrock is classified by the GSI as a Locally Important aquifer, which is moderately productive only in local zones. The aquifer vulnerability according to the GSI is considered to be low (L).

The licensee has outlined that one of the three existing groundwater monitoring wells has been lost, as it has been covered by dense foliage. A condition is included in the RD for the installation of a replacement groundwater monitoring well, following approval by the Agency on its location. No changes to the conditions relating to groundwater monitoring are proposed in the RD. The RD requires continued bi-annual monitoring for relevant parameters as identified in *Schedule C.6.2 Groundwater Monitoring*, the results of which are to be compared to the Agency's "Interim Guideline Values" on groundwater quality and the Groundwater Threshold Values set out in the European Communities Environmental Objectives (Groundwater) Regulations, as amended.

It is in the licensee's interest to keep detailed records of operational practice such as inspections, maintenance, incidents, accidents and remediation under IED. The Agency's Office of Environmental Enforcement may refuse an application for surrender without detailed assessment and remediation proposals. Upon definitive cessation of the activity (and in accordance with Article 22(3) of the IED), the operator shall assess the state of soil and groundwater contamination by relevant hazardous substances used, produced, or released by the installation. Where the installation has caused significant pollution of soil or groundwater, by relevant hazardous substances compared to the state established in the baseline report, the operator shall take the necessary measures to address that pollution, so as to return the site to that state, or otherwise to take actions aimed at the removal, control, containment, or reduction of hazardous substances, so that the site ceases to pose a significant risk to human health or the environment. For that purpose, the technical feasibility of such measures may be taken into account.

11. Fit & Proper Person

Technical Ability

The licensee has provided details of the qualifications, technical knowledge and experience of key personnel, who have been operating the installation under IE licence register no. W0287-01 for the last eight years. The licence application also includes information on the on-site management structure. It is considered that the licensee has demonstrated the technical knowledge required.

Legal Standing

Neither the licensee nor any relevant person has relevant convictions under the Environmental Protection Agency Act 1992, as amended, or under any other relevant environmental legislation.

ELRA, CRAMP and Financial Provision

The proposed installation was assessed for the requirements of Environmental Liabilities Risk Assessment (ELRA), Closure, Restoration and Aftercare Management Plan (CRAMP) and Financial Provision (FP), in accordance with Agency guidance. Under this assessment it has been determined that ELRA, CRAMP and FP were not required. As part of the licence review application, the licensee submitted a letter from OEE

confirming that the licensee is not currently required to agree costs and financial provisions for environmental liabilities.

Fit & Proper Conclusion
It is my view, that the licensee can be deemed a Fit & Proper Person for the purpose of this review.

12. Submissions

While the main points raised in the submissions are briefly summarised in the table below, the original submission should be referred to at all times for greater detail and expansion of particular points.

The issues raised in the submissions are noted and addressed in this Inspector's Report, and the submissions were taken into consideration during the preparation of the Recommended Determination (RD).

Submissions			
1.	**Name & Position:**	**Organisation:**	**Date received:**
	Siobhan Murphy Principal Environmental Health Officer	Health Service Executive	25/08/21
	Issues raised: The submission addresses potential incidents on site, emergency services access to site, and site response to incidents. The submission also addressed issues around public consultation, contamination of surface water, noise, dust, and odour. The HSE had no specific observations, but the following recommendations in respect of the application were made: • General recommendations in relation to incidents and emergency response. • It is good practice to ensure that a designated member of staff has responsibility for dealing with complaints and queries from members of the public; • Due to the 'at risk' status of the River Suir in this locality, emission limits for storm water discharges to the River Suir are specified in the licence review. • Conditions in the existing licence regarding mitigation measures to minimise impacts on water quality are maintained in the revised PD; • The existing dust mitigation measures are included as conditions of the reviewed licence.		**Agency response:** • Condition 9 of the RD includes standard conditions for accident prevention and emergency response. • Condition 2 of the RD requires that a public awareness and communications programme be put in place. • Emission limits are not applicable in this instance, as the licensee is only discharging uncontaminated storm water into the River Suir. • Condition 6 of the RD requires trigger levels to be approved by the Agency for storm water discharges to surface water, and Condition 3 requires all connections between vessels capable of being closed by valves. • Conditions 3 of the RD provides for dust mitigation measures. • Conditions 2 of the RD requires the licensee to implement a programme for maintenance of all plant and equipment.

Submissions			
	• That all odour control and monitoring plant and equipment is subjected to a biannual maintenance inspection.		
2.	**Name & Position** Clare Glanville Senior Geologist	**Organisation:** Geological Survey Ireland	**Date received:** 15/07/21
	Issues raised: The submission from the GSI did not raise any specific points of concern in relation to the licence application. The submission relates to the use of GSI datasets for assessing planning applications and EIARs.		**Agency response:** • The content of the submission is noted.

13. Consultations

13.1 Cross Office Consultation

I consulted with OEE Inspectors Lisa Maher and Joan Fogarty in relation to this site and individual licence conditions, Ann Lyng in relation to Financial Charges, and Victor Olmos in relation to emissions to air. In general, the OEE have no concerns regarding the proposed changes to the licensable activity.

13.2 Transboundary Consultations

There were no transboundary consultations undertaken, as there were no transboundary impacts identified.

14. Appropriate Assessment

Appendix 3 lists the European Sites assessed, their associated qualifying interests and conservation objectives, along with the assessment of the effects of the activities on the European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at: Lower River Suir SAC (Site Code: 002137), Hugginstown Fen SAC (Site Code: 000404), and Comeragh Mountains SAC (Site Code: 001952).

The activities are not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activities, individually or in combination with other plans or projects, will have a significant effect on any European Site, and accordingly determined that an Appropriate Assessment of the activities was required, and for this reason determined to require the applicant to submit a Natura Impact Statement. A Natura Impact Statement was received by the Agency on

02/07/21.

This determination has been made having regard to the following: There is a hydrological connection to the Lower River Suir SAC, as the activity will involve the discharge of storm waters to the surface waters of the SAC.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field, and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, pursuant to Article 6(3) of the Habitats Directive, that the activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Lower River Suir SAC (Site Code: 002137), Hugginstown Fen SAC (Site Code: 000404), and Comeragh Mountains SAC (Site Code: 001952), having regard to their conservation objectives, and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this recommended determination, and the conditions attached hereto for the following reasons:

- The licence requires the licensee to discharge only uncontaminated storm water to a stormwater drain, prior to discharge to the River Suir. The storm water collection system includes a silt trap and oil interceptor, prior to discharge from a storm water retention tank fitted with a flow restrictor and shut-off valve at the outlet, to limit the flow to surface water to ensure that stormwater will not negatively impact on water quality, and ensure the continued protection of water dependent species;
- Daily visual inspections and proper maintenance of storm water discharges are provided for in the licence. The licence requires the licensee to establish suitable trigger levels for storm water discharges and a response programme to address exceedances. There are no process emissions to surface water from this installation;
- The licence requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Integrity of bunds and underground pipes are to be assessed every three years and maintenance carried out as required. Waste and materials shall be stored in designated areas, protected against spillage and leachate run-off;
- The licence requires the licensee to carry out a review of the firewater risk assessment, within nine months of the date of grant of the licence, to determine if the activity requires additional fire-water retention facilities;
- The licence specifies emission limit values for emissions to air from the installation, and air dispersion modelling has demonstrated that emissions which comply with these limits will not cause breaches of relevant air quality standards. Therefore, air emissions will not have a significant effect on the qualifying interests of any European sites;
- Given the lack of hydrological connectivity and the distance between the installation and the European sites Hugginstown Fen SAC (Site Code: 000404), and Comeragh Mountains SAC (Site Code: 001952), direct impacts on qualifying interests will not arise.

In light of the foregoing reasons, no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites at Lower River Suir SAC (Site Code: 002137), Hugginstown Fen SAC (Site Code: 000404), and Comeragh Mountains SAC (Site Code: 001952).

15. Environmental Impact Assessment

15.1 EIA Introduction

This assessment is being undertaken in accordance with the requirements of Directive 2014/52/EU amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. The application was accompanied by an Environmental Impact Assessment Report (EIAR).

As part of this environmental impact assessment, I have carried out an examination, analysis and evaluation of all the information provided by the licensee (including the EIAR), the existing licence, Register Number W0287-01, information received through consultation, the documents associated with the assessments carried out by Waterford County Council, and the issues that interact with the matters that were considered by that authority, and which relate to the activity, written submissions, as well as considering any supplementary information, where appropriate. All of the documentation received was examined, and I consider that the EIAR complies with the provisions of Article 5 of the 2014 EIA Directive, when considered in conjunction with the additional material submitted with the application.

I am satisfied that the information contained in the EIAR has been prepared by competent experts and that the environmental effects arising as a consequence of the activity have been satisfactorily identified, described and assessed.

Having specific regard to EIA, this Inspector's report as a whole is intended to identify, describe and assess for the Agency the likely significant direct and indirect effects of the activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following environmental factors: population and human health, biodiversity, land, soil, water, air and climate, the landscape, material assets and cultural heritage.

This Inspector's report addresses the interaction between those effects and the related development forming part of the wider project. The cumulative effects, with other developments in the vicinity of the activities have also been considered, as regards the combined effects of emissions. In addition, the vulnerability of the activity to risks of major accidents and/or disasters has been considered. The mitigation measures proposed to address the range of predicted significant effects arising from the activity have been outlined. This Inspector's report provides conclusions to the Agency in relation to such effects.

A summary of the submissions made by third parties has been set out above in the Submissions Section of this report.

I am satisfied that the public have been given early and effective opportunity to participate in the environmental decision-making process.

15.2 Consultation with Planning Authorities in relation to EIA

Consultation was carried out between Waterford County Council and the Agency under the relevant section of the EPA Act 1992, as amended. Waterford County Council did not provide any observations to the Agency on the licence application and EIAR.

15.3 Alternatives

The matter of alternatives is addressed in Chapter 3, Section 3.1 of the EIAR. The EIAR considered that no apparent alternative location is considered more suitable for a number of reasons including the fact that an alternative location will require the acquisition of land; the construction of new waste processing buildings or alterations to an existing building, and the provision of offices, maintenance workshops, weighbridges, new site services (surface water, foul water, power, water supply and security) and the recruitment and training of new staff. The report further outlined that the Waste Management Plan for the Southern Region does not identify specific locations for future waste related activities, but does state that the proper siting of these activities, including expansion of existing facilities, is the most appropriate approach. In this regard, I consider that the matter of the examination of alternatives has been satisfactorily addressed.

15.4 Likely Significant Direct and Indirect Effects

The likely significant direct and indirect effects of the activities on the following factors as set out in Article 3 of the EIA Directive are considered in this section:

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in points (a) to (d).

15.4.1 Population & Human Health

Identification, Description and Assessment of Effects

Population and human health are addressed in Chapter 13 of the EIAR. The potential direct and indirect effects on population and human health are associated with emissions to air (including dust, and odour), noise emissions, emissions to water, and accidental emissions. Should emissions exceed environmental quality standards, this could have implications for population and human health. The effects identified and described above have been assessed in the following section of this report: Emissions to Air, Emissions to Water/Ground/Sewer, Noise, Waste generation, Prevention of Accidents, Cessation of Activity, and Environmental Impact Assessment.

There is also the potential for accidental emissions to the environment, due to fire or spillages. Accidental emissions to water and/or ground could occur if oils/fuels spilled, bunds failed and damaged hardstanding created a pathway to surface water or ground. This could potentially affect the quality of soil and groundwater directly, which could affect those using the groundwater body as a source of drinking water, and could potentially indirectly affect surface quality downstream. Accidental emissions to air could occur if the biofilter system on the composting or anaerobic digestion process failed. This could have implications for air quality beyond the site boundary. This is addressed in Section 9. Prevention of Accidents of this report.

Cumulative effects of the activity in relation to population and human health have been assessed and is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring

Mitigation measures and monitoring in relation to population and human health are detailed in the following sections of this report: Emissions to Air, Emissions to Water/Ground/Sewer, Noise, Waste generation, and Prevention of Accidents.

Conclusions
I have examined all the information on population and human health, provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of population and human health.

15.4.2 **Biodiversity**

Identification, Description and Assessment of Effects
Biodiversity is addressed in Chapter 9 of the EIAR. The EIAR describes the habitats and species at and in the vicinity of the installation. To gather this information, an ecological survey was conducted. The licensee also submitted a Natura Impact Statement (refer to the Appropriate Assessment section of this report).

The site includes areas of broadleaf woodland on the north east and south east of the site. These areas of plantation woodland are approximately 20 years old and consist of two distinct blocks; Ash (*Fraxinus excelsior*) dominated woodland, and Sycamore (*Acer pseudoplatanus*) dominated woodland. The development works will involve loss of some of this semi-mature Sycamore dominated broadleaf woodland.

On the western side of the existing site are areas of amenity grassland. These areas are species poor and regularly mown. Within this area is the site of the permitted compressor unit. The construction of the access road to this unit will involve the loss of existing trees including a Maple (*Acer* sp.) and Poplar hybrid (*Populus* sp.), both of which are non-native and ornamental in nature.

Red fox (*Vulpes vulpes*), Hedgehog (*Erinaceus europaeus*), and small rodents (likely Wood Mouse (*Apodemus sylvaticus*) are present at the wooded areas of the site. At least six bat species were confirmed at the site. These are Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered bat (*Myotis mystacinus*), Leisler's bat (*Nyctalus leisleri*), Natterers Bat (*Myotis nattereri*), Brown Long-eared Bat (*Plecotus auritus*) and Common pipistrelle (*Pipistrellus pipistrellus*). No evidence of roosting bats was recorded during the daytime building inspections, or during the ground level preliminary tree roost assessment.

A good diversity of relatively common bird species uses the woodland habitats within the proposed development area, for foraging, and possibly nesting also. The species identified as being present at the proposed site include Bullfinch (Pyrrhula pyrrhula), Woodpigeon (*Columba palumbus*), and Swallow (*Hirundo rustica*). No evidence of nesting was found within the proposed site, with the exception of Starling (*Sturnus vulgaris*) which was noted to be nesting was in a number of places.

The potential direct and indirect effects on biodiversity are related to effects on aquatic flora and fauna and their habitats, due to effects on water quality, disturbance to fauna

due to noise emissions, and effects due to air emissions. The effects identified and described above have been assessed in the following sections of this report: Emissions to Air, Emissions to Water/Ground/Sewer, Noise, and Appropriate Assessment.

There is also the potential for accidental emissions to the environment, due to fire or spillages. Accidental emissions to water and/or ground could occur if oils/fuels spilled, bunds failed, and damaged hardstanding created a pathway to surface water or ground. This could potentially affect the quality of soil and groundwater directly. Accidental emissions to air could occur if the biofilter system on the composting or anaerobic digestion process failed. This could have implications for the health status of flora and fauna beyond the site boundary. This is addressed in Prevention of Accidents section of this report.

Cumulative effects of the activity in relation to biodiversity have been assessed, and it is considered that there is not likely to be a significant cumulative effect from the activity, and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
Mitigation measures and monitoring in relation to biodiversity are detailed in the following sections of this report: Emissions to Air, Emissions to Water/Sewer/Ground, Noise, Waste Generation, Prevention of Accidents, and Appropriate Assessment.

Conclusions
I have examined all the information on biodiversity, provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed, and mitigated by the measures identified, and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of biodiversity.

15.4.3 **Land and Soil**

Identification, Description and Assessment of Effects
Land and soil are addressed in Chapter 7 of the EIAR. The installation is in a rural location, approximately 2.6 km north-east of Portlaw. The River Suir is approximately 270 metres from the eastern site boundary.

The subsoils underlying the majority of the site are Carboniferous limestone tills. A geotechnical investigation established that the soils and subsoils comprised 0.3m of topsoil overlying approximately 2 m of medium dense brown silty clayey sand with gravel and cobbles, which in turn was underlain by at least 2 m of firm to stiff, brown, sandy, silty clay with some gravel, cobbles and the occasional boulder. Subsoil thickness ranged from 34 m in the north central part of the site to 12.5 m in the north east of the site. The bedrock beneath the site comprises limestone and dark-grey calcareous shale. The proposed development involves the loss of 1 ha of woodland to accommodate the new buildings, tanks, attenuation ponds, and ancillaries. The provision of this infrastructure will involve the excavation of soils and subsoils for the foundations and associated underground services. The Baseline Report section of this report provides a summary in relation to soil and groundwater contamination at the installation.

The potential direct and indirect effects on land and soil are associated with emissions to air, storm water discharges, and accidental emissions. Should emissions exceed environmental quality standards, this could have implications for land and soil. The effects identified and described above have been assessed in the following sections of this report: Emissions to Air, Emissions to Water/Ground/Sewer, and Cessation of Activity.

There is also the potential for accidental emissions to the environment. In the construction stage there is the potential for spills/leaks to occur when refuelling vehicles and mobile plant that could impact the exposed subsoils. In the operational stage, there is the potential for leaks/spills to occur during the delivery and handling of the incoming wastes, the storage and removal of the digestate that could infiltrate to ground via damaged paving. In the event of a fire, there is the contaminated firewater run-off will enter the storm water drains and there is the potential for leaks to ground to occur if the drains are damaged. This is addressed in the Prevention of Accidents section of this report.

Cumulative effects of the activity in relation to land and soil have been assessed, and is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
Mitigation measures and monitoring in relation to land and soil are detailed in the following sections of this report: Emissions to Air, Emissions to Water/Sewer/Ground, Waste, and Prevention of Accidents.

Conclusion
I have examined all the information on land and soil, provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects on land and soil.

15.4.4 **Water (including Waste Water, Storm Water)**

Identification, Description and Assessment of Effects
Water is addressed in Chapter 8 of the EIAR. The potential direct and indirect effects on water relate to storm water emissions only. There are no process emissions to surface water or groundwater. Should the emissions cause an exceedance of Water Quality Standards in the receiving water, this could have potential effects on water quality, aquatic biodiversity and human health. The effects identified and described above have been assessed in the following sections of this report: Emissions to Water/Sewer/Ground, and Appropriate Assessment.

There is also the potential for accidental emissions to water or groundwater, which could occur if oils/fuels spilled, bunds failed, and damaged hardstanding created a pathway to surface water or ground, potentially affecting soil and groundwater quality as well as aquatic habitats. However, the likelihood of accidental emissions to water is

considered low in light of the measures outlined in the "Prevention of Accidents" section above, and in light of the conditions in the RD. This is addressed in the Prevention of Accidents section of this report.

Cumulative effects of the activity in relation to water have been assessed and is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring

Mitigation measures and monitoring in relation to water are detailed in the following sections of this report: Emissions to Water/Sewer/Ground, Waste Generation, and Prevention of Accidents.

Conclusions

I have examined all the information on water provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects on water.

15.4.5 Noise and Vibration

Identification, Description and Assessment of Effects

Noise and vibration are addressed in Chapter 11 of the EIAR. The lands surrounding the site are used for agricultural purposes, and the area immediately east and south of the site are planted with deciduous trees. The nearest dwellings are along the R680 road, and the closest house is 260 m from Building 1. There is a farm 290 m to the west, and a commercial orchard 430 m to the south of the site entrance.

The potential direct and indirect effects of noise and vibration associated with the operation of the activity are noise from the construction plant and equipment, and increased noise levels due to the acceptance and processing of an additional 40,000 tonnes of waste. The effects identified and described above have been assessed in the following section of this report: Noise.

Noise arising from the installation could have the potential to cause nuisance for those living near the activity, or to affect noise sensitive species. The effects have been assessed in the noise section of this report.

There is also the potential for accidental noise and vibration to occur, if equipment and plant on-site malfunctioned, causing nuisance to the surrounding area. This is addressed in the Prevention of Accidents section of this report.

Cumulative effects of the activity in relation to noise and vibration have been assessed and is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring

Mitigation measures and monitoring in relation to noise and vibration are detailed in the following section of this report: Noise.

Conclusions
I have examined all the information on noise and vibration provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of noise and vibration.

15.4.6 **Air (including Dust and Odour)**

Identification, Description and Assessment of Effects
Air is addressed in Chapter 10 of the EIAR. The potential direct and indirect effects on air, including dust and odour, are associated with emissions from combustion sources, odorous emissions from the waste intake sheds, and the malfunction of abatement systems. Should emissions exceed Air Quality Standards, this could have implications for air quality, population and human health, and biodiversity within and beyond the installation boundary. General site dust and odour emissions have the potential to impact human health and cause nuisance. The effects identified and described above have been assessed in the following section of this report: Emissions to Air.

There is also the potential for accidental emissions to the environment, due to the incorrect storage of waste deliveries, and the breakdown or malfunction of abatement technologies on channelled emissions to air. Accidental air emissions can occur if waste delivered to the site is stored outside the buildings, or there is an issue with the integrity of the building resulting in nuisance beyond the installation boundary. Accidental emissions to air could occur if any of the biofilters used as odour abatement infrastructure malfunctioned, causing interference with amenities, or the environment beyond the installation boundary. This is addressed in the Prevention of Accidents section of this report.

Cumulative effects of the activity in relation to air have been assessed and is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
Mitigation measures and monitoring in relation to air are detailed in the following sections of this report: Emissions to Air.

Conclusions
I have examined all the information on Air (including dust and odour) provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Air (including dust and odour).

15.4.7 **Climate**

Identification, Description and Assessment of Effects

Chapter 5 of the EIAR addresses Climatic Factors. Climate change is a significant global issue which affects weather and environmental conditions (air, water and soil), which consequently affects population and human health, material assets, cultural heritage, the landscape, and biodiversity. Climate change is caused by warming of the climate system by enhanced levels of atmospheric greenhouse gases (GHG) due to human activities. GHG's are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF_3) and sulphur hexafluoride (SF_6).

In December 2022, the Irish Government released the "Climate Action Plan 2023", under the Climate Action and Low Carbon Development (Amendment) Act 2021, which will support Ireland's transition to Net Zero, and achieve a climate neutral economy by no later than 2050. Anaerobic digestion is specifically mentioned in the Climate Action Plan 2023, with an aim to deliver a National Biomethane Strategy within 6 months of publication of the plan, and to seek financial opportunities for capital support for the development of a biomethane industry in Ireland. A key metrics in the report is for the production of biomethane to increase in Ireland, with up to 1 TWh of Biomethane being produced by 2025, and 5.7 TWh of Biomethane being produced by 2030. This increase in biomethane production will be facilitated by increasing the number of anaerobic digestion plants by up to 20 by 2025, and up to 200 by 2030. The granting of a revised licence to Ormonde Organics Limited to increase the annual waste acceptance threshold from 40,000 tonnes to 80,000 tonnes per annum will result in an increase of biomethane production at this installation, and will help meet the national target for biomethane production, as set out in the Climate Action Plan 2023.

The potential direct and indirect effects on climate are associated with emissions from the combustion plants, transport emissions from vehicles entering and leaving the site, and process air emissions. The main sources of emissions of climate altering substances are from the combustion of gas and diesel in the combustion plants on-site. F-gases are used on-site for refrigeration and as an insulating gas. F-gases are controlled under the F-Gas regulations (F-Gas Regulation (EU) No 517/2014), and are not addressed in the RD.

The installation does not operate under a GHG Emissions Permit in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012, (S.I. 490 of 2012 and amendments). Therefore, this site is not subject to the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012, (S.I. 490 of 2012 and amendments). It is therefore a requirement of the IED to investigate how direct emissions of CO_2 might be minimised.

Indirect emissions of CO_2 may arise due to the use of electricity from the national grid. These emissions are covered under the EU ETS at the generating plant but the licensee is also required to address electricity usage as part of energy efficiency management.

In relation to cumulative effects, any combustion process will inevitably produce quantities of gases, including greenhouse gases (GHG), which have the potential to impact on air quality. However, it is usually the other combustion gases that negatively impact air quality as opposed to the greenhouse gases. In this assessment, it has already been determined that the emissions from the installation will not significantly affect local air quality, individually or cumulatively.

However, any discussion of GHG emissions must be extended to national and global climate impact. Given the small quantity of climate altering substances that could be released from the activity, in a national context, I consider that the impact of any emissions from the installation on climatic considerations should be minimal.

As part of the non-ETS sector, the GHG emissions from this site are covered by Ireland's commitments under the Effort Sharing Decision (Decision No 406/2009/EC), and the Effort Sharing Regulation (Regulation (EU) 2018/842) from 2021. Condition 2 and condition 7 of the RD deal with energy efficiency matters at the installation.

It is considered that the likelihood of accidental emissions occurring which could affect climate is low in light of the measures outlined in the "Prevention of Accidents" section above and the proposed conditions in the RD. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
Mitigation measures and monitoring in relation to climate are detailed in the following sections of the licence assessment part of this report: Emissions to Air, Energy Efficiency and Resource Use, and Prevention of Accidents.

Conclusions
I have examined all the information on climatic factors provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable effects in terms of air and climatic factors.

15.4.8 Material Assets, Cultural Heritage and the Landscape

15.4.8.1 Material Assets (including resource use and waste generation)

Identification, Description and Assessment of Effects
Chapter 15 of the EIAR addresses Material Assets. The potential direct and indirect effects on material assets are the use of natural resources. The activity will require the consumption of certain material assets; in particular electricity, water and road diesel. The amounts used are listed in section 15.3.4. The development will result in an increase in the consumption of diesel and electricity associated with the additional traffic and additional waste processing. No significant cumulative effects on material assets have been identified.

Material assets such as roads and traffic and built services are dealt with in the decision of the planning authority to grant permission for the development. The planning authority has considered the effect to be acceptable. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
Mitigation measures and monitoring in relation to material assets are detailed in the following sections of the licence assessment part of this report: Energy Efficiency and Resource Use.

Material Assets Conclusions

I have examined all the information on Material Assets provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Material Assets.

Material assets such as roads, traffic and built services are dealt with in the decision of the planning authority to grant planning permission for the developments on site and it has considered the effects to be acceptable.

15.4.8.2 Cultural Heritage

Identification, Description and Assessment of Effects
Chapter 14 of the EIAR addresses Cultural Heritage. Any loss of archaeological or architectural heritage could impact negatively on human beings. These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site and the planning authority has considered the effect to be acceptable.

The EIAR states that The Sites and Monuments Records Map and the Registered Monuments Manual do not contain any record of any archaeological feature within the site, and there are no listed monuments within 500 m of the site. There is no record of any protected structure (e.g. medieval structure, church) within the site boundary. There are no features of archaeological significance in the footprint of the existing installation or the immediate vicinity.

No significant cumulative effects on the cultural heritage have been identified. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
There are no specific mitigation measures or monitoring proposed in the RD.

Cultural Heritage Conclusions
These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site and considered the effects to be acceptable. The Recommended Determination does not propose to include any additional mitigation measures in relation to cultural heritage.

15.4.8.3 The Landscape

Identification, Description and Assessment of Effects
Chapter 12 of the EIAR addresses the landscape. Any disturbance of the landscape has the potential to impact on human beings and their enjoyment of the surrounding area due to visual impacts. These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site, and it has considered the effects to be acceptable.

The landscape in the vicinity of the site is dominated by pasture/tillage field systems, forestry, and the River Suir and its tributaries. The topography slopes generally from west to east towards the River Suir. The land immediately to the north-east, east, southeast, and south of the installation is covered with deciduous woodland. South of the woodland are agricultural lands that are used for pasture, tillage and horticulture.

The River Clodiagh is also to the south and flows east to its confluence with the River Suir. To the northeast of the woodlands the lands are poorly draining pasture that slope down to the river and are used for cattle grazing. To the north, the land use is mainly grassland, with some tillage, with Mountbolton Wood further north. The R680, which runs from north to south, forms the site's western boundary. The lands to the west of the road are primarily used for animal grazing and tillage. No significant cumulative effects on the landscape have been identified.

Therefore, there are no likely significant direct, indirect or cumulative effects identified.

Mitigation and Monitoring
There are no specific mitigation measures or monitoring proposed in the RD.

The Landscape Conclusions
These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on site and considered the effects to be acceptable. The Recommended Determination does not propose to include any additional mitigation measures in relation to landscape.

Overall Conclusions for Material Assets, Cultural Heritage and the Landscape
I have examined all the information on material assets, cultural heritage and the landscape provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Material Assets, Cultural Heritage and the Landscape.

15.4.9 **Interactions Between Environmental Factors**

Interactions of effects are considered in Chapter 16 of the EIAR. The most significant interactions between the factors as a result of the activity are summarised below:

Population & Health/Air/Noise/Traffic
The proposed development has the potential to impact on human beings from air and noise emissions, traffic and major accidents. As demonstrated such effects are considered not to be likely or significant.

Biodiversity/Water/Noise
The Lower River Suir SAC is 270 m to the east of the development site and there is a direct hydraulic connection between them. The potential impacts were assessed in the Water, Biodiversity, Air and Noise Chapters of the EIAR, and the appropriate mitigation measures were identified. As demonstrated such effects are considered not to be likely or significant.

Conclusions
I have considered the interaction between population and human health, biodiversity, land, soil, water, air, climate, landscape, material assets, cultural heritage and the interaction of the likely effects identified throughout this report. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I

am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable in terms of the interaction between the foregoing environmental factors.

15.4.10 Vulnerability of the Project to Risks of Major Accidents and or Disasters

The EIAR describes the expected effects deriving from the vulnerability of the activity to risks of major accidents and/or disasters that are relevant to the activity. This is dealt with in Section 4.21, Chapter 4 of the EIAR. The installation is not subject to the requirements of the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015). The Seveso Directive and Regulations are not applicable to this installation. The licensee completed an assessment of the likely effects of major accidents. The most likely major accident is a fire. To mitigate the risk of a fire, the amount of combustible solid material on site at any one time is kept to a minimum. The method of storage is generally consistent with the recommendations in 'Reducing Fire Risk at Waste Management Sites' (Waste Industry Safety and Health Forum 2014).

Mitigation and Monitoring
Below are the mitigation and monitoring measures in relation to the vulnerability of the project to risks of major accidents and disasters specified in the RD:

- Condition 3 requires a review of the firewater risk assessment, to determine if the activity requires additional fire-water retention facilities;
- Condition 8 requires a Waste and Materials Storage plan be maintained which incorporates the recommendations of the fire risk assessment; and
- Schedule C2.3 requires the monitoring of the storm water discharge from the site yard, for a range of parameters.

Conclusions
I have examined all the information on major accidents and/or disasters provided by the licensee/applicant, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects as a result of major accidents and/or disasters.

15.5 Reasoned Conclusion on the significant effects

Having regard to the examination of environmental information contained above, and in particular to the content of the EIAR and supplementary information provided by the licensee, and the submission(s) from third parties in the course of the application, it is considered that the potential significant direct and indirect effects of the activity on the environment are as follows:

- Emissions to air from odour;
- Emissions to air from combustion sources;
- Noise emissions;
- Accidental leakages or spills.

Having assessed those potential effects, I have concluded as follows:

- Emissions to air from odour sources will be mitigated through: operation of abatement in accordance with BAT, imposing emission limit values to ensure compliance with ground level concentration of odour at sensitive receptors and implementing monitoring, maintenance and control measures;
- Emissions to air from combustion sources will be mitigated through: imposing emission limit values to ensure compliance with ambient air quality standards and implementing monitoring, maintenance and control measures;
- Noise emissions will be mitigated through: imposing daytime, evening-time and night-time noise limits at noise-sensitive locations and implementing monitoring, maintenance and control measures; and
- Accidental leakages or spills will be mitigated through: the use of silt traps and oil separators, inspection and maintenance of bunds and tanks, and accident and emergency requirements.

Having regard to the effects (and interactions) identified, described and assessed throughout this report, I consider that the monitoring, mitigation and preventative measures proposed will enable the activity to operate without causing environmental pollution, subject to compliance with the Recommended Determination. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

16. EPA Charges

The annual enforcement charge recommended in the RD is €12,112, which reflects the anticipated enforcement effort required and the cost of monitoring. This is a similar enforcement charge compared to the 2021 charge for the installation.

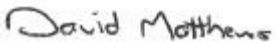
17. Recommendation

The Agency, in considering an application for a licence or the review of a licence, shall have regard to Section 83 of the EPA Act 1992, as amended. The Agency shall not grant a licence or revised licence unless it is satisfied that emissions comply with relevant emission limit values and standards prescribed under regulation. In setting such limits and standards, the Agency must ensure they are established based on the stricter of both the limits and controls required under BAT, and those required to comply with any relevant environmental quality standard. The Agency shall perform its functions in a manner consistent with Section 15 of the Climate Action and Low Carbon Development Acts 2015 as amended.

The RD specifies the necessary measures to provide that the installation shall be operated in accordance with the requirements of Section 83(5) of the EPA Act 1992, as amended, and has regard to the AA and EIA. The assessment is consistent with Section 15 of the Climate Action and Low Carbon Development Plan 2015 as amended. The RD gives effect to the requirements of the Environmental Protection Agency Act 1992, as amended and has regard to submissions made.

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed



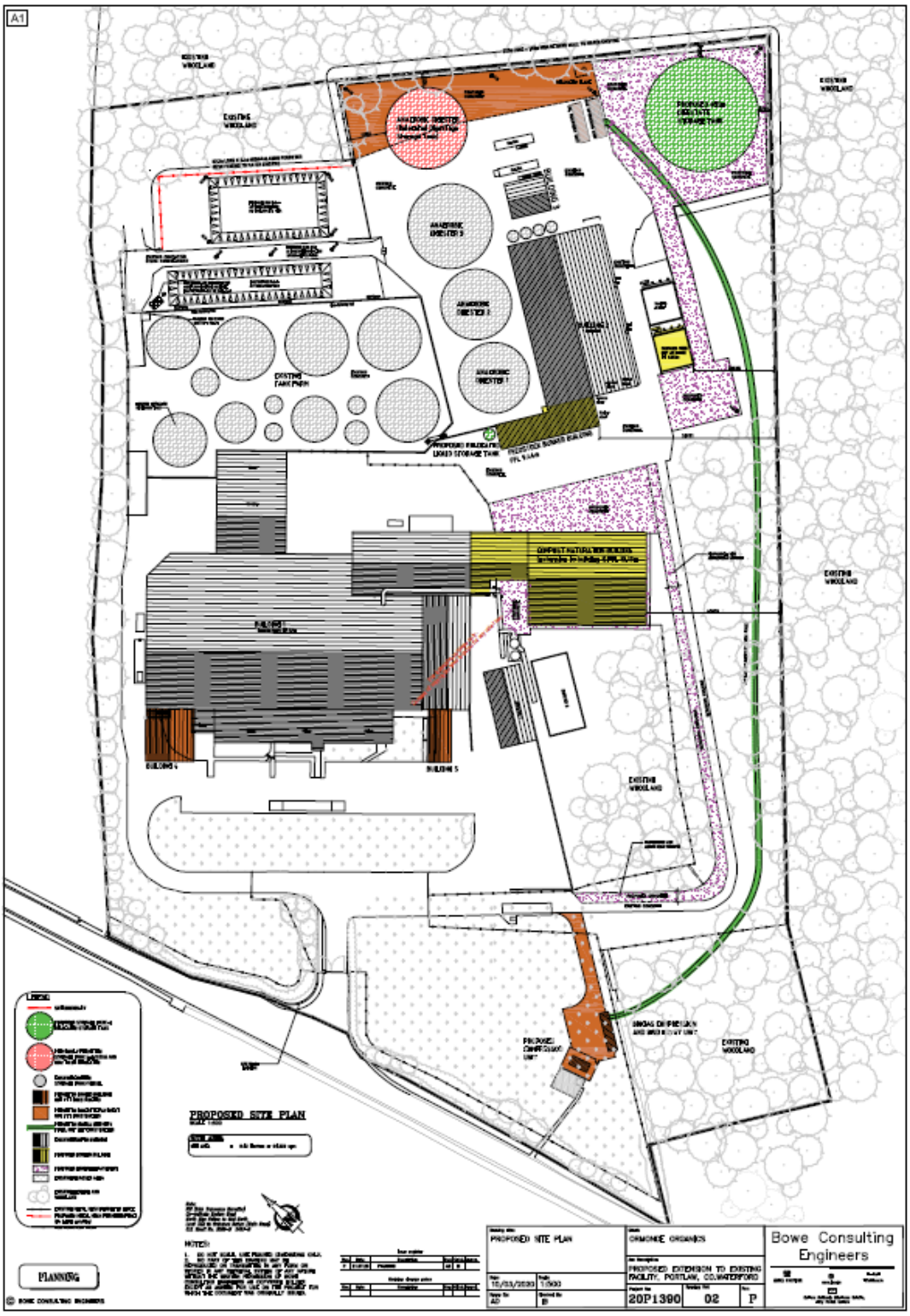
Dr. David Matthews

Procedural Note

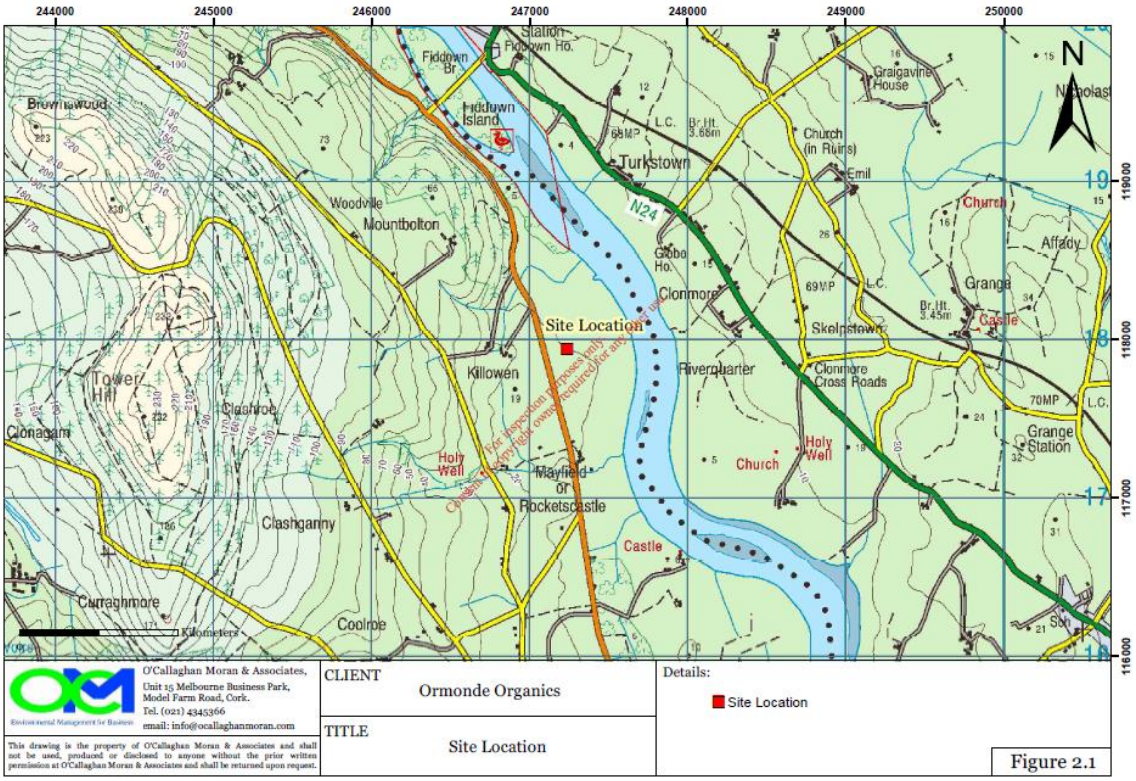
In the event that no objections are received to the Proposed Determination on the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Act 1992, as amended, as soon as may be after the expiration of the appropriate period.

Appendices

Appendix 1 Site Layout



Appendix 2 Site Location



Appendix 3 Appropriate Assessment

Assessment of the effect(s) of the activities on European sites, and proposed mitigation measures.

Site Name (site code)	Qualifying Interests (* denotes priority habitat)	Conservation Objectives	Assessment
Lower River Suir SAC (002137)	**Habitats** 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation 6430 *Hydrophilous* tall herb fringe communities of plains and of the montane to alpine levels 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* 91J0 *Taxus baccata* woods of the British Isles* **Species** 1092 White-clawed Crayfish (*Austropotamobius pallipes*) 1029 Freshwater Pearl Mussel (*Margaritifera margaritifera*) 1099 River Lamprey (Lampetra fluviatilis) 1096 Brook Lamprey (*Lampetra planeri*) 1355 Otter (*Lutra lutra*)	NPWS (2017) Conservation Objectives: Lower River Suir SAC 002137. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs	Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore, immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford. **Emissions to Water** Emissions to water are assessed in Section 6.2 of this report. Storm water is the only emission to water authorised from the installation. This discharge has the potential to negatively impact the SAC, as changes in water quality could affect the habitats and species living there. *Mitigation* The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC: • All storm water emissions pass through a silt trap and interceptor, prior to discharge from a storm water retention tank (224m^3 capacity) fitted with a flow restrictor and shut-off valve at the outlet to limit the flow; • All contaminated runoff arising onsite will be contained and recirculated into the processes, or sent for treatment off-site; • The discharge of storm water will be required to comply with trigger levels; • Any storm water that exceeds these trigger levels shall be diverted for retention, prior to disposal off site; • Bunding and integrity testing shall be carried out every three years. **Emissions to Air**

Site Name (site code)	Qualifying Interests (* denotes priority habitat)	Conservation Objectives	Assessment
	1095 Sea Lamprey (*Petromyzon marinus*) 1103 Twaite Shad (*Alosa fallax fallax*) 1106 Salmon (*Salmo salar*)		Emissions to air are described in Section 6.1 of this report. There will be 9-point source emissions to air from the installation. *Mitigation* The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC: • Condition 5 of the RD states that emissions may be made from the specified emission points set out in Schedule B, subject to compliance with the emission limit values specified in that Schedule. Schedule C of the RD also sets out the control requirements for emissions to air. • Air dispersion modelling has demonstrated that emissions from the installation will not cause breaches of the relevant air quality standards for the protection of vegetation and the environment **Noise** Noise emissions are described in Section 6.4 of this report. The RD specifies noise ELVs of 55dB(A)LAr,T (daytime), 50dB(A)LAr,T (evening-time) and 45dB(A)LAeq,T (night-time). Existing noise prediction demonstrates that noise from the installation will not be audible at this European Site. **Risk to Groundwater** There is a potential for the activities at the installation to have an impact on groundwater. *Mitigation* The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC: • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines "Storage and Transfer of

Site Name (site code)	Qualifying Interests (* denotes priority habitat)	Conservation Objectives	Assessment
			Materials for Scheduled Activities" (2004), which will minimise the potential for contamination of oil/groundwater. • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers, and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. **Potential for Accidents** There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SAC. *Mitigation* The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC: • Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. • Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.

Site Name (site code)	Qualifying Interests (* denotes priority habitat)	Conservation Objectives	Assessment
			• Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines "Storage and Transfer of Materials for Scheduled Activities" (2004), which will minimise the potential for contamination of soil/groundwater. • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
Hugginstown Fen SAC (000404)	**Habitats** 7230 Alkaline fens	NPWS (2019) Conservation Objectives: Hugginstown Fen SAC 000404. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.	Given the lack of hydraulic connection, and the distance involved (12.9 km), the potential impact on these sites is considered negligible.
Comeragh Mountains SAC(001952)	**Habitats** 3110 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation 4010 Northern Atlantic wet heaths with *Erica tetralix*	NPWS (2021) Conservation Objectives: Comeragh Mountains SAC 001952. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage	Given the lack of hydraulic connection, and the distance involved (14 km), the potential impact on these sites is considered negligible.

Site Name (site code)	Qualifying Interests (* denotes priority habitat)	Conservation Objectives	Assessment
	4030 European dry heaths 4060 Alpine and Boreal heaths 8110 Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) 8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation **Species** 1393 Slender Green Feather-moss *(Drepanocladus vernicosus)*		

Appendix 4 Relevant Legislation

The following European instruments are regarded as relevant to this application assessment and have been considered in the drafting of the Recommended Determination.
Industrial Emissions Directive (IED) (2010/75/EU)
Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended by 2014/52/EU)
Habitats Directive (92/43/EEC) & Birds Directive (79/409/EC)
Water Framework Directive [2000/60/EC]
Waste Framework Directive (2008/98/EC)
Groundwater Directive (80/68/EEC) and 2006/118/EC
Air Quality Directives (2008/50/EC and 2004/107/EC)
Energy Efficiency Directive (2018/2002/EU)
Environmental Liability Directive (2004/35/CE)
Medium Combustion Plant Directive (2015/2193/EU)

Appendix 5 Other CIDs/BREF/BAT documents relevant to this assessment

Commission Implementing Decisions	Publication Date
COMMISSION IMPLEMENTING DECISION of 10 August 2018 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste treatment ((EU) 2018/1147)	August 2018
Horizontal BREF	Publication date
Reference Document on the Best Available Techniques on Emissions from Storage	July 2006
Reference Document on the Best Available Techniques for Energy Efficiency	February 2009
National BAT notes	Publication date
BAT Guidance Note for the Waste Sector (Transfer & Materials Recovery)	December 2011

Appendix 6 Relevant BAT Conclusions for Commission Implementing

Decision on Waste Treatment, CID (EU) 2018/1147 (August 2018)

The following table sets out the applicable BAT conclusions for Waste Treatment, and the relevant condition/schedule in the RD. BAT conclusions not applicable to the site are not included (6-7, 9, 13, 20, 22, 24-32, 35, 37, 40-53).

BAT No.	BAT Requirement	Condition/Schedule
1	Environmental Management System.	Sub-conditions in Condition 2.2.
2	Waste stream management required as part of the EMS to improve the overall environmental performance of the plant.	Condition 2.2.2.6
3	Inventory of waste gas required as part of the EMS to reduce emissions to air.	Condition 2.2.2.5
4	Techniques required to minimise the environmental risk associated with waste storage.	Condition 8.13.4(i)
5	Waste handling and transfer procedures.	Condition 8.11
8	Monitor channelled emissions to air in accordance with EN standards.	*Schedule C: Control and Monitoring.*
10	Periodically monitor odour emissions.	*Schedule C: Control and Monitoring*
11	Annual consumption of resources and generation of residues reduction.	Condition 7.5
12	Odour management plan.	Condition 6.17.1 & 2.2.2.8
14	Prevent and reduce diffuse emissions to air.	Condition 6.9
15	Flaring for safety reasons or for non-routine operating conditions.	Condition 8.15.3
16	Reduce emissions to air from flares.	Condition 8.15.4
17	Noise management plan, as part of the environmental management system.	Condition 6.15.3.1
18	Minimise noise emissions.	Condition 6.15.2
19	Optimise water consumption and reduce waste water generation.	Condition 7.4
21	Accident management.	Condition 2.2.2.7.
23	Energy Efficiency.	Condition 7.3
33	Waste acceptance procedures	Condition 8.12
34	Abatement to reduce channelled emissions to air of dust, organic compounds and odorous compounds	Schedule B.1
36	Monitor and/or control the key waste and process parameters	Schedule F
38	Monitor and/or control the key waste and process parameters	Schedule C.1.1
39	Reduce emissions to air	Condition 3.21(iv)

Appendix 7 List of Waste Codes

List of Waste' (LOW) Code	LOW Description, before treatment	Applicant's Description of Waste Accepted
02 02 03	Materials unsuitable for consumption or processing	Food waste
02 02 04	Sludges from on-site effluent treatment	Sludge
02 03 04	Materials unsuitable for consumption or processing	Food waste
02 03 99	Wastes not otherwise specified	Food waste
02 05 01	Materials unsuitable for consumption or processing	Food waste
02 05 02	Sludges from on-site effluent treatment	Sludge
02 06 01	Materials unsuitable for consumption or processing	Food waste
02 06 03	Sludges from on-site effluent treatment	Sludge
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials	Food waste
02 07 04	Materials unsuitable for consumption or processing	Food waste
02 07 05	Sludges from on-site effluent treatment	Sludge
07 05 12	Sludges from on-site effluent treatment other than those mentioned in 07 05 11	Sludge
19 08 02	Waste from desanding	Sludge
19 08 05	Sludges from treatment of urban waste water	Sludge
19 09 02	Sludges from water clarification	Sludge
19 12 07	Wood other than that mentioned in 19 12 06	Woodchip
20 01 08	Biodegradable kitchen and canteen waste	Kitchen and canteen waste
20 01 25	Edible oil and fat	Oils and fats
20 02 02	Soil and stones	Garden waste