Coastal Recycling

Deep Moor

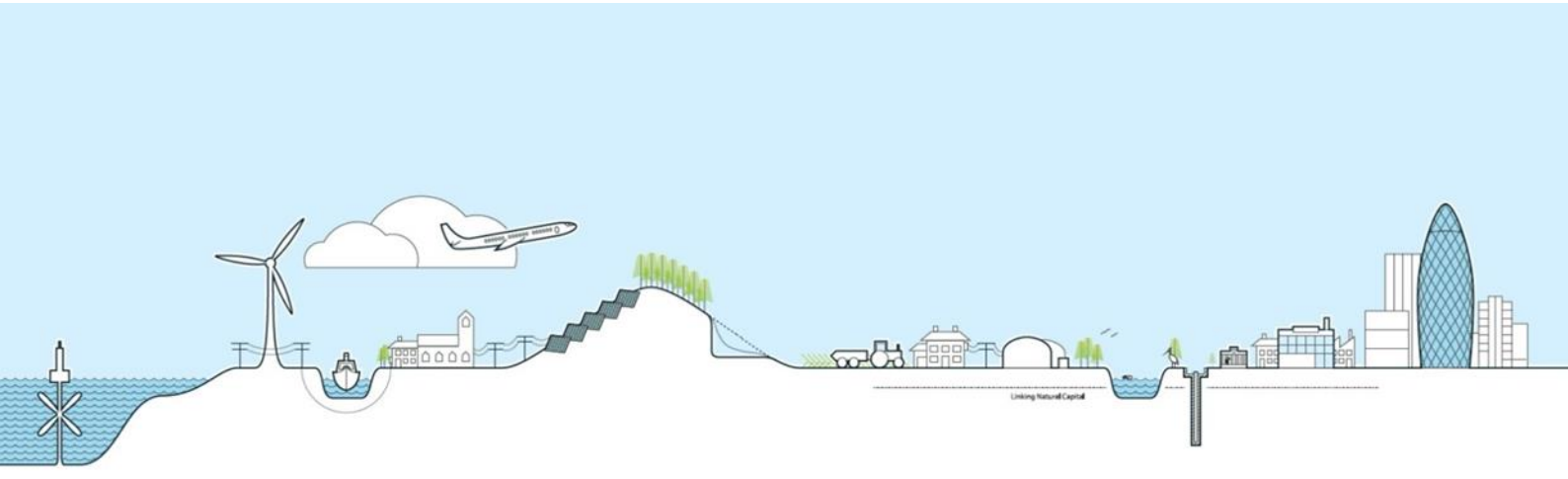
Waste Transfer and Composting Facility

Permit Variation Application

July 2024

Prepared By

aardvark
environment matters



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1 Non-Technical Summary

This application is made on behalf of Coastal Group UK Ltd (company registration number: 05892189), for the Deep Moor facility located to the north-west of High Bullen. The application is to vary the current permit (ERP/VP3402BE) from the operation of the In Vessel Composting (IVC) facility to a green waste composting operation and the operation of a municipal waste transfer station in the building formerly used for the IVC operation.

The green waste composting operation is an “open windrow” process in which the green waste is set out in rows and regular turned to optimise the biological composting process to produce a nutrient rich, stable compost product. This is then taken offsite for use as a fertiliser.

The waste transfer station accepts household waste, mainly delivered to the site through local authority contracts.

The waste types accepted include glass, plastics. These materials are held in dedicated storage bays and bulked up pending collection and transfer off-site to a recycling facility.

Both operations occur within the boundary of the existing permit for the IVC so an application to vary the permit to include these activities, as a replacement for the IVC operation.

The IVC operation is designated as an Installation under the Environmental Permitting Regulations and Industrial Emissions Directive (IED). This variation application is to retain the environmental permit as an Installation, based on the biological treatment capacity of the open windrow composting, and for the operation of the waste transfer station to be listed on the same environmental permit, as a waste operation.

Both aspects of the operation include control measures to ensure environmental impacts are acceptable, in accordance with the relevant environmental guidance.

An environmental risk assessment has been prepared in support of this application to identify the control measures to ensure environmental impacts acceptable.

These include:-

- measures to contain and safely discharge any leachate and effluent waters from the composting process in the dedicated lagoon, in addition to any drainage from the waste transfer station building.
- Ensuring the waste acceptance procedures are implemented.

The permit variation includes a number of supporting documents including:-

- Provision of an Odour Management Plan (OMP).
- Provision of a Fire Prevention Plan (FPP).

2 Introduction

This application is made on behalf of Coastal Group UK Ltd (company registration number: 05892189), for the Deep Moor facility located to the North-West of High Bullen. The application is to vary the current permit (ERP/VP3402BE) from the operation of the In-Vessel Composting (IVC) facility to the operation of a waste transfer station in building formerly used for the IVC operation and open window green waste composting operation.

2.1 Site Location

The Deep Moor Composting Site is located in North Devon, approximately 620m north-west of the village of High Bullen and 3.6km east of the town of Great Torrington. It is accessed via a single-track lane that can be reached from the B3232 to the north and the B3227 to the south.

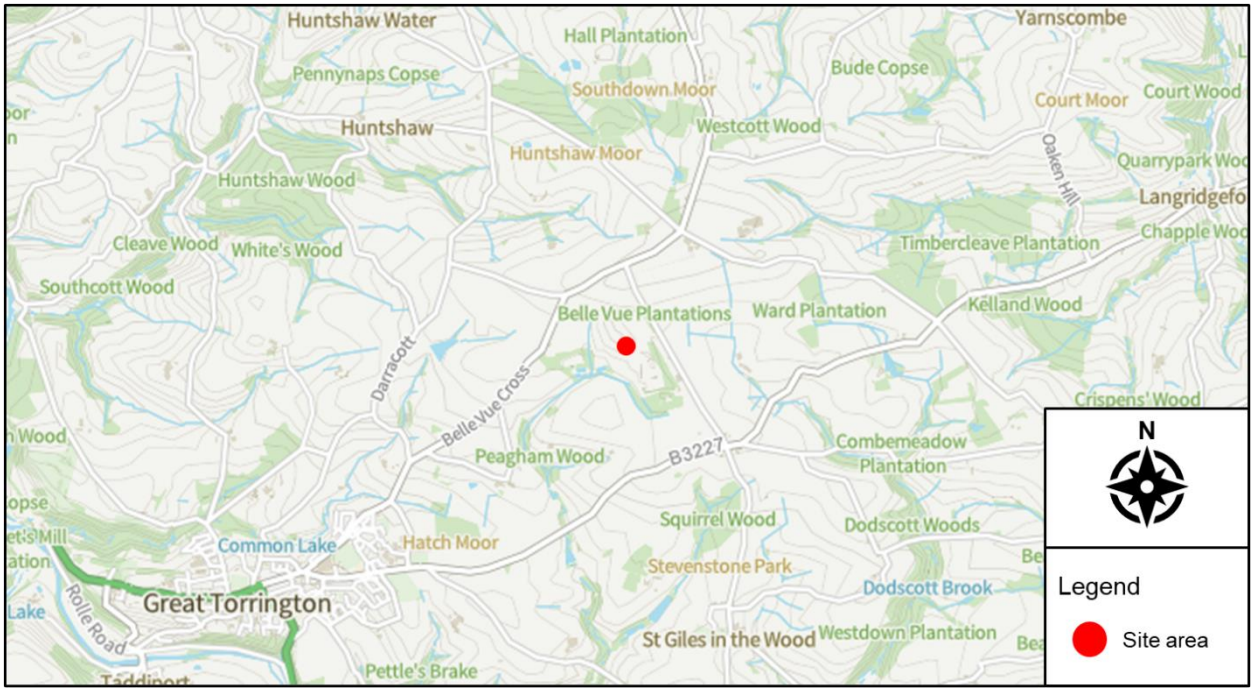

Figure 1. Site Location Plan

2.2 Background to variation application

The site was operated as a IVC by the former permit holder, Viridor, for the composting of waste types. The site is now operated by Coastal Group UK Recycling Ltd.

The former IVC building is used for waste transfer operation for household recyclable waste, largely collected by Local Authorities. The transfer station includes allocated bays for the waste streams, including glass, plastics cardboard.

2.3 Proposed Changes to Permitted Activities

2.3.1 Part C3 – Table 1a Types of Activities

2.3.1.1 Current Permitted Activities

Schedule 1 Listed activities						
Installation Name	Schedule 1 or other references	Description of the activity	Activity capacity	Annex I (D Codes)	Hazardous waste treatment capacity	Non-hazardous waste treatment capacity
AR1	5.4 (a) (i)	In-vessel composting	>75tpd	R3	N/a	>75 tpd

Table 1. Schedule 1 Listed Activities

Directly associated activities		
Name of DAA	**Description of the DAA**	
AR 2	Storage of waste pending recovery of disposal	
AR 3	Physical treatment for the purposes of recycling	
AR 5	Raw material storage	
AR 6	Storage of finished compost and non-composted fraction	
AR 7	Process water collection and storage	
AR 8	Surface water collection and storage	
AR 9	Air treatment	
For installations that take waste	Total storage capacity (max. tonnes at any one time)	Not specified
	Annual throughput (tpa)	**25,000**

Table 2. Currently permitted activities

2.3.1.2 Following proposed permit variation

Schedule 1 Listed activities						
Installation Name	Schedule 1 or other references	Description of the activity	Activity capacity	Annex I (D Codes)	Hazardous waste treatment capacity	Non-hazardous waste treatment capacity
AR1	5.4 (a) (i)	Open window composting	>75tpd	R3	N/a	>75 tpd

Table 3. Schedule 1 Listed Activities

Directly associated activities		
Name of DAA	Description of the DAA	
AR 2	Storage of waste pending recovery of disposal	
AR 3	Physical treatment for the purposes of recycling	
AR 4	Raw material storage	
AR 5	Storage of finished compost and non-composted fraction	
AR 6	Process water collection and storage	
AR 7	Surface water collection and storage	
For installations that take waste	Total storage capacity (max. tonnes at any one time)	
	Annual throughput (tpa)	**30,000**

Table 4. Directly Associated Activities

2.4 Type of variation

The permit variation application seeks to maintain Schedule 1 Activity Section 5.4 Part A (1) (b) for:-

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 (i) biological treatment.

This activity was originally applied for the In-Vessel Composting. It is proposed that this now covers the open window composting operation.

The permit variation applied for is a normal variation based on the following guidance

"Make a change that would alter the nature of your facility's operation or increase the environmental risk posed."

It is also proposed to add a waste operation as a second activity to the permit. Therefore section 3.8 is to add an activity to an existing permit. As this variation is to add a waste transfer operation as a new activity, this is included in the same application, but the application fee for a new permit activity is paid.

3 Site Activities

3.1 Site Layout

The composting facility and waste transfer station are located within the Deep Moor Recycling Site. The permit variation application pertains to the former IVC site (previously operated by Viridor) and now used for waste transfer operation and green waste open windrow composting, located along the eastern boundary of the site. The site also includes permitted landfill, civic amenity site, and asbestos transfer station. The site includes the weighbridge, leachate lagoon and drainage arrangement.

As you enter the site there is a weighbridge to the right, the lagoon and leachate tank to the left. The waste transfer station is located near to the centre of the site, previously used as an IVC facility, with an attached amenity centre. The Composting facility is to the north-east of the site, the reception area in the far corner, with the windrows located to next to the waste transfer station. Please see the Site Layout Plan (Figure 2).

The green waste recycling operation take place to the north of the transfer operation. Green waste is deposited on the concrete pad and passes through a shredder to reduce particle size and aid the composting process. The shredded green waste is set out in a windrow and turned to allow oxygen in to pile to allow for oxygen into the pile and control the temperature and centre of the pile to optimum conditions for breakdown of the organic matter.

The composting process takes approximately 12 weeks to complete (dependent on the time of year). Warmer summer temperatures allows for quicker completion of the composting process). Finished compost is set out in a maturation pile, to await dispatch from the site. The majority of the composted material is certified to meet the Composting Quality Protocol, which determines that the material is no longer a waste, provided it is used as a replacement for fertiliser products. This standard entails strict quality compliance criteria to ensure that that end material is of a sufficient quality for waste controls not to apply for its future use.

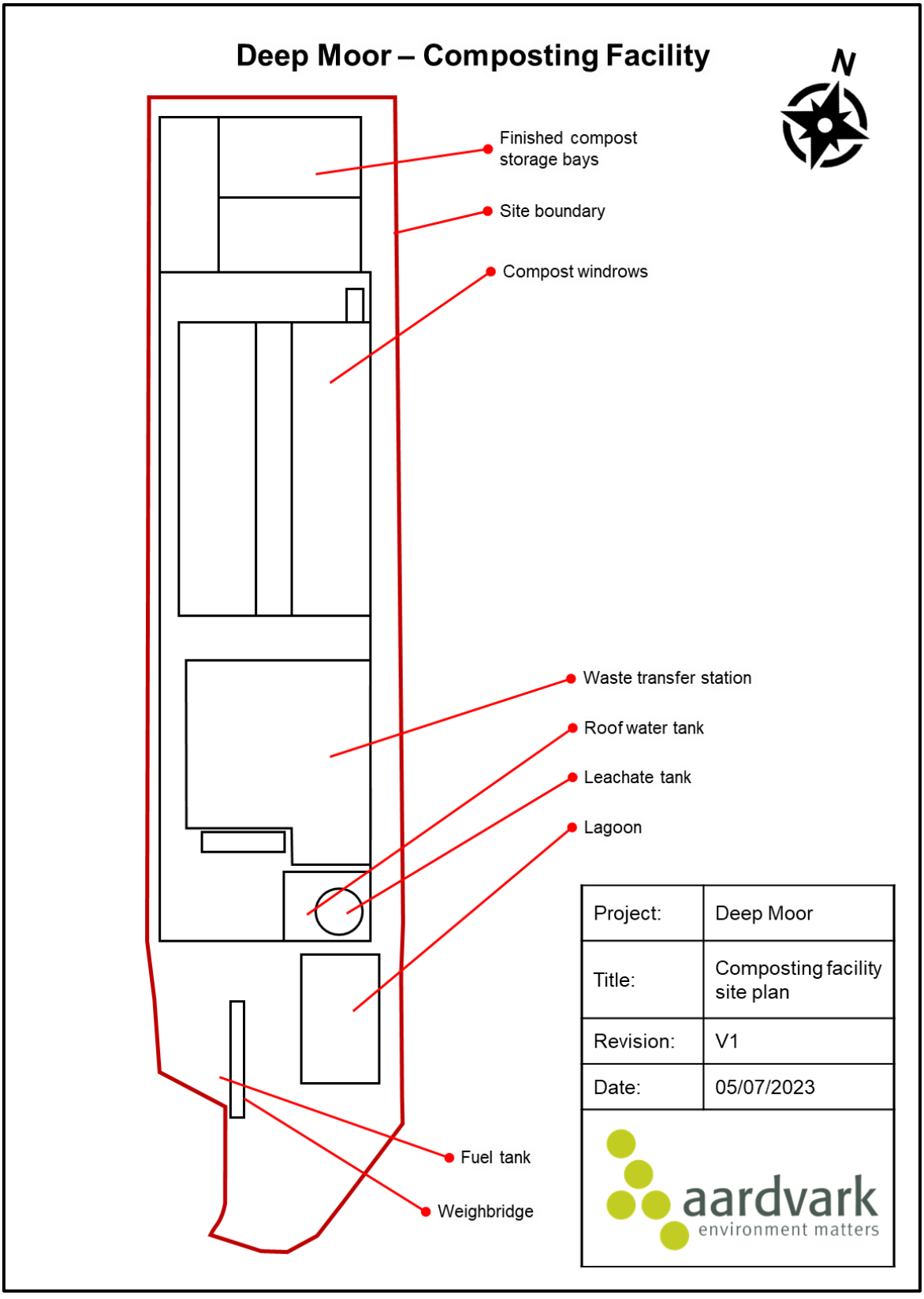

Figure 2. Site Layout

3.1.1 Open Window Composting

The following activities are undertaken at the site:

Activity	Description
Waste reception	Acceptance of Source Segregated Green Waste arising from Local Authority kerbside collections, Household Waste Recycling Centres and limited quantities from commercial customers.
Shredding and windrow formation	Green Waste shredding using a mobile shredder, loaded by a telehandler. Shredded green waste is moved using a telehandler and placed into windrows. Windrow formation is sometimes undertaken using the swing shovel.
Monitoring & turning	Composting of Green Waste in windrows, with regular temperature monitoring and windrow turning through the sanitation and stabilisation phases. Temperatures are monitored manually using a handheld probe. Windrows are turned using a 360 Tracked Excavator fitted with a specialist rake or bucket.
Screening	Following completion of the actively managed composting phase, each batch is screened to produce certified grades of compost under PAS100QP. Material is screened using a mobile trommel screener. Material is loaded into the hopper of the screener using a telehandler. Screened material is moved away from the screener using a telehandler and placed into stockpiles pending dispatch. Oversize material from the screening process is moved using a telehandler to be re-shredded and either removed from site or reprocessed.

Table 5. Composting Activities

3.1.2 Waste transfer

Activity	Description
Waste reception	Acceptance of Source Segregated Green Waste arising from Local Authority kerbside collections, Household Waste Recycling Centres and limited quantities from commercial customers.
Shredding and windrow formation	Green Waste shredding using a mobile shredder, loaded by a telehandler. Shredded green waste is moved using a telehandler and placed into windrows. Windrow formation is sometimes undertaken using the swing shovel.
Monitoring & turning	Composting of Green Waste in windrows, with regular temperature monitoring and windrow turning through the sanitation and stabilisation phases. Temperatures are monitored manually using a handheld probe. Windrows are turned using a 360 Tracked Excavator fitted with a specialist rake or bucket.

Activity	Description
Screening	Following completion of the actively managed composting phase, each batch is screened to produce certified grades of compost under PAS100QP. Material is screened using a mobile trommel screener. Material is loaded into the hopper of the screener using a telehandler. Screened material is moved away from the screener using a telehandler and placed into stockpiles pending dispatch. Oversize material from the screening process is moved using a telehandler to be re-shredded and either removed from site or reprocessed.

Table 6. Waste Transfer Activities

3.2 Limits of permitted activities

3.2.1 Composting

The proposed variation will seek to increase the currently permitted tonnage of 25,000 tpa to 30,000 tpa. This equates to an average daily treatment capacity of 82.2 tonnes when averaged across the year.

Following the method to calculate the daily treatment capacity provided in the RGN 2[1], the daily treatment capacity is calculated by diving the maximum quantity that can be composted at any one time by the minimum time taken to produce sanitised and stabilised compost. The maximum quantity of waste that could be composted at any one time can be calculated from the pad area used for active composting, the size of the windrows and the density of the composting waste.

The maximum size of a single windrow is 70m (l), 10m (w) and up to 5m (h). The volume of the largest windrow is expected to be in the region of 2,000m^3 with a maximum quantity of 1,200 tonnes, assuming an average bulk density of 0.6 tonnes/m^3.

A theoretical maximum of 4 windrows of this size, equating to a maximum compost process of 4,800 tonnes. The theoretical minimum time for the completion of the biological composting process (including the sanitisation and stabilisation stages) is 56 days, assuming a minimum 14 days (2 weeks) for sanitisation and 42 days (6 weeks) for stabilisation. The daily treatment capacity is calculated to be 85.7 tonnes per day. However, it is the time to achieve finished compost is variable, and that the above calculation does not take into account the storage of waste received, prior to shredding, storage of any oversize material, or of finished compost. This variation seeks to maintain the composting activity to be permitted under Schedule 1 Part A(1).

The approval of planning permission for extension of the composting facility to the north will provide greater space for composting operation. Initially this is to provide the site with the space to meet the maximum annual tonnage under the existing IVC permit.

[1] RGN 2 Understanding the meaning of a regulated facility Appendices 1 and 2

Parameter	Quantity	Unit
Minimum sanitisation time	10	days
Minimum stabilisation time	56	days
Combined minimum biological treatment time	66	days
Maximum window length	70	metres
Maximum windrow width	10	metres
Maximum height	5	metres
Maximum volume per window (approximate)	2,000	cubic metres
Maximum quantity per windrow	1,200	tonnes
Maximum no of windrows	4	
Maximum treatment capacity	4,800	tonnes
Daily treatment capacity	72.7	tonnes per day

Table 7. Daily Treatment Capacity considerations

3.3 Site Drainage

Clean surface water from the roofs and the area of impermeable hardstanding along the roadway and in front of the waste transfer station.

3.4 Operating Hours

The composting site and transfer station is manned between the hours of 7.00am and 5.00pm, Monday to Friday. The Recycling Centre located at the wider Deep Moor site is open to the public at the following times:

Summer (April to September)		Winter (October to March)	
Monday to Friday	9am - 5pm	Monday to Friday	9am - 4:30pm
Saturday to Sunday	10am - 6pm	Saturday to Sunday	10am - 4:30pm

Table 8: Public Opening Hours

4 Waste Types Accepted

4.1 Composting

The following waste types are proposed at the compost operation. These are consistent with the permitted EWC codes on the closest available Standard Rules Permit SR2021 no1 composting in open systems.

The fill list of EWC Codes that can be accepted in included in Appendix 1.

4.2 Waste Transfer

The full list of EWC codes which can be accepted at the waste transfer station are provided in Appendix 2. These are modelled on the acceptable waste codes for the closest applicable Standard Rules set SR 2015 No4.

5 Monitoring

5.1 Emissions monitoring

5.1.1 Point Source emissions to air

The existing permit maintains emissions to air from the biofilter units located at the rear of the former IVC building. The infrastructure for the biofilter units remains in place, but the biofilter units are no longer operational or required for the waste transfer operation. Therefore these point source emission are no longer required on the environmental permit.

5.1.2 Point source emissions to water and land

The are no point source emissions to land.

The only point source emission to surface is

5.1.3 Point Source emissions to sewer

Leachate generated on-site is directed to the landfill leachate treatment works (through a sealed drainage system) located on the western side of the Deep Moor Landfill, before being pumped to the foul water sewer. This is regulated by a separate permit (part of the Deep Moor Landfill permit (ref. EPR. EPR/BV6994IV), held by Deep Moor LF Limited). The permit requires the treated effluent to be monitored on a weekly basis, testing the discharge for the flow, pH, COD, Suspended Solids, Ammoniacal Nitrogen, Chromium, Zinc and Nickel. This arrangement is set up in the existing permit. It is not proposed to vary this arrangement from that currently permitted.

5.2 Process monitoring

The following monitoring will be undertaken at the site in line with the current environmental permit.

Parameter	Monitoring frequency	Monitoring standard or method	Additional specifications
Temperature	Stockpiles will be monitored daily. Daily during sanitisation stage. Daily during stabilisation stage. Once per week during the maturation stage. Once per week for oversize storage piles.	Temperature probe	Monitoring equipment shall be available on site and used as required to maintain anaerobic conditions. Equipment shall be regularly calibrated as per the sites permit. Uncontrolled self-heating and decomposition must be prevented in accordance with the
Moisture	Stockpiles will be monitored daily. Daily during sanitisation stage. At least daily during stabilisation stage.	Industry grab tests or oven drying in accordance with BS EN 13040	

	Once per week during the maturation stage.		sites management plans. Records of sampling must be maintained.
Total Organic Carbon	On acceptance to the site.	Total organic carbon using a recognised industry method	
Total Kjeldahl Nitrogen	On acceptance to the site.	Total Kjeldahl nitrogen in accordance with BS EN 13654-1	
Fly infestation or pupa formation	Daily for stockpiles prior to preparation. Daily during sanitation stage. Weekly for stockpiles in stabilisation phase.	Visual inspection	Records of sampling must be maintained. Any infested waste will be rejected as per the waste acceptance procedure.
The volume of leachate contained within storage lagoons and storage tanks	At least daily.	The visual volume (for example up to a marker)	A 750mm freeboard must be maintained. The volume of the lagoon must be recorded.
Odour	Daily at specified points located around the site (see OMP). Continuous monitoring will be undertaken by site operatives.	Olfactory monitoring	Undertaken as per the sites odour management plan.
Integrity of site containment, storage tanks, site surfacing, drainage etc.	Daily and weekly checks will be undertaken to ensure the integrity of the site.	Visual assessment	Records will be undertaken of any issues noted at the site and any required maintenance.
Meteorological conditions (wind speed, temperature, wind direction etc.)	Continuous monitoring will be undertaken by operatives on site. Daily monitoring to ensure any weather events are anticipated.	Visual assessment Using weather forecasting to predict future events	

The final composted material will be produced in line with PAS 100.

Monitoring for sanitisation requires:

- Temperature monitoring must be undertaken within the core zone every 250m^3 of the batch,
- Moisture monitoring must be undertaken once per working day in line with the sites HACCP.

Monitoring for stabilisation requires:

- Temperature monitoring must be undertaken within the core zone every 250m^3 of the batch,

- Moisture monitoring must be undertaken once per working day in line with the sites HACCP.

Compost sampling

Once the compost is validated a sample representative of a batch within every 5,000m^3 or 2500 tonnes of the compost grade is produced, must be taken. The sampling will test for pathogens, potentially toxic elements, stability/maturity, physical contaminants (including stones), and plant response, weed seeds and propagules.

6 Resource efficiency

The following section are prepared in answer to the Application Form Part C3 Question 6.

Table S4.3 of the current permit sets out the performance parameters including those relating to energy usage. The Annual assessment of energy usage in MWh should be report using standard report form Energy 1 of other form as agreed in writing by the Environment Agency.

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes or m^3
Energy usage	Annually	MWh
Total raw material used	Annually	tonnes

6.1 Energy Efficiency

Part C3 Question 6a requires a description of the basic measure for improving how energy efficient the permitted activities are. Question 6b requires a breakdown of any changes to the energy the permitted activities use up and create.

The variation from the composting as an In-Vessel Composting to an Open Windrow Composting operation entails a different energy usage profile because of the transition from an indoor to an outdoor composting activity. Consequently, the energy usage associated with the production of compost is reduced.

Chapter 4.2.2.4 of the Waste Treatment BREF provides comparative figures between in-vessel and outdoor composting. Average energy consumption for outdoor aerobic treatment (including open windrow composting) is 64kWh per tonne of waste treated (with a range of between 0 – 330kWh). The average value for indoor aerobic treatment is given as 69kWh per tonne of waste treated (with a range between 0.1 – 253kWh per tonne of waste treated. This suggests that the energy efficiency of the two composting systems is fairy similar when assessed as a per tonne treated basis.

In accordance with Section 12.1 Energy Efficiency of the Biological Treatment of waste: appropriate measures for permitted facilities, basic measures for improving energy efficiency include the recording of fuel usage in the fixed and mobile plant, renewal of lubricating oils and servicing of water and leachate transfer pumps.

6.2 Raw material usage

In accordance with the relevant section of the appropriate measures guidance (Section 12.2) the site:

- Maintains a list of all raw materials (and their properties) used,
- Review materials and methods used at the site regularly. Determine whether new alternative materials or methods could be utilised which may have a reduced environmental impact through improved efficiency of raw material and water use,
- Has quality control procedures to ensure all raw materials utilised at the site are up to the required standards.

6.3 Water Use

In accordance with the relevant section of the appropriate measures guidance (Section 12.3) the site takes measures to optimise water usage and clean water efficiently and where possible reduce the overall volume of waste water generated and prevent emission to soil and water.

This will be achieved through:

- Assessing the water usage requirements of the site through undertaking mass balance assessments and creating flow diagrams (at least every 4 years),
- Establishing key water saving objectives and identifying areas for improvement,
- Investigate water saving options that could be trialled for the areas identified as requiring improvement at the site (this could include recirculating and reusing water streams).

6.4 Waste minimisation

In accordance with the relevant section of the appropriate measures guidance (Section 12.4), the site minimises the residues generated from treating waste,

- Optimises the reuse, regeneration, recovery and recycling of residues,
- Ensures that any residues which cannot be minimised or recovered are disposed of properly (through preparation of a wase disposal assessment).

The residues management plan must be reviewed on a regular basis to ensure that the most environmental options for the minimisation, recovery and disposal of waste is sought (where economically or technically practical.

Appendices

Appendix 1 – Composting EWC Code List

Appendix 2 – Waste Transfer Station EWC Code List

Appendix 1 – Composting Waste Codes

Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	
02 01 03	plant-tissue waste
02 01 06	Animal Faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 99	Wastes not otherwise specified
02 03 04	materials unsuitable for consumption or processing
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 01	waste bark and wood
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
Wastes from inorganic chemical processes	
Wastes from shaping and physical and mechanical surface treatment of metals and plastics	
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 05	composite packaging
15 01 09	textile packaging
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
Wastes not otherwise specified in the list	
16 03 06	organic wastes other than those mentioned in 16 03 05
16 10 02	Aqueous liquid wastes other than those mentioned in 17 07 05
Construction and demolition wastes (including excavated soil from contaminated sites)	
17 05 06	Dredging soil other than those mentioned in 17 07 05
Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use	
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	Sludges from physio/chemical treatment other than those mentioned on 19 02 05
19 05 01	non-composted fraction of municipal and similar wastes
19 05 03	off-specification compost
19 06 04	Digestate from anaerobic treatment of municipal waste
19 06 06	Digestate from Anaerobic treatment of animal and vegetable waste
19 12 01	paper and cardboard
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
20 01 01	paper and cardboard
20 01 39	Plastics

20 02 01	biodegradable waste
20 03 01	mixed municipal waste
20 03 02	waste from markets

Appendix 2 – Waste Transfer Waste Codes

Waste transfer SR2015 no. 4	
Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals	
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07 02
Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 07	wastes from forestry
02 01 10	waste metal
02 02 03	materials unsuitable for consumption or processing
02 03 04	materials unsuitable for consumption or processing
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 05 01	wastes from the dairy products industry
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 01	waste bark and wood
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
Wastes from the leather, fur and textile industries	
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
Wastes from inorganic chemical processes	
06 09 02	phosphorous slag

06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11 01	calcium-based reaction wastes from titanium dioxide production
Wastes from organic chemical processes	
07 02 13	waste plastic
Wastes from the photographic industry	
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 0110	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
Wastes from thermal processes	
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 24	sands from fluidised beds
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 14	filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other filter cakes
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
10 05 01	slags from primary and secondary production
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 05	filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10

10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 18	filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
10 11 03	waste glass-based fibrous materials
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 12 01	waste preparation mixture before thermal processing
10 12 05	filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 07	filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete
Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro metallurgy	
11 01 10	filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 05 01	hard zinc
11 05 02	zinc ash

Wastes from shaping and physical and mechanical surface treatment of metals and plastics	
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
Wastes not otherwise specified in the list	
16 01 03	end-of-life tyres
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	06 linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
Construction and demolition wastes (including excavated soil from contaminated sites)	
17 01 01	Concrete
17 01 02	Bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02 01	Wood
17 02 02	Glass
17 02 03	Plastic
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 04 01	copper, bronze, brass
17 04 02	Aluminium
17 04 03	Lead
17 04 04	Zinc
17 04 05	iron and steel
17 04 06	Tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 08	track ballast other than those mentioned in 17 05 07
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use	
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 04 01	vitrified waste
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	Glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
20 01 01	paper and cardboard
20 01 02	Glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	Clothes
20 01 11	Textiles
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	Plastics
10 01 40	Metals
20 01 41	wastes from chimney sweeping
20 02 01	biodegradable waste
20 02 02	soil and stones
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky waste