



ANNUAL ENVIRONMENTAL REPORT
GREENSTAR ENVIRONMENTAL SERVICES LIMITED
MATERIALS RECOVERY FACILITY
SIX CROSS ROADS BUSINESS PARK
WATERFORD
LICENCE NO. W0177-03
JANUARY 2011 – DECEMBER 2011

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1. INTRODUCTION

This is the 2011 Annual Environmental Report (AER) for the Greenstar Environmental Services Ltd. (GES), Materials Recovery Facility (MRF) at Six Cross Roads Business Park, Waterford (W0177-03) and covers the reporting period January 2011 to December 2011.

The content is based on Schedule F of the Waste Licence and the report format follows guidelines set in the “Guidance Note for Annual Environmental Report” issued by the Environmental Protection Agency (Agency)¹. Cognisance was also taken of the Agency AER Draft Guidance Document issued in January 2012².

¹ EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency

² EPA (Environmental Protection Agency) 2012 Draft AER Guidance Document

2. SITE DESCRIPTION

2.1 Site Location and Layout

The subject site is located at Carriganard, Six Cross Roads approximately 3.5 km southwest of Waterford City Centre. It is in an industrial area on the outskirts of the City. The area to the west of the facility is mainly farmland. The nearest residential area is the Ballybeg housing estate, which is approximately 500 m to the north. The facility encompasses approximately 9,300 m² and is accessed by a county road (Green Road) off the N25 National Primary Route. This county road, which forms the western site boundary, is a cul-de-sac which is used solely for access to the facility and the adjoining composting facility. The southern and eastern boundaries are formed by the Six Cross Roads Business Park.

There are two waste processing buildings. The Main Building houses the offices and Commercial and Industrial waste (C&I) recycling activities and bulk waste transfer. The Lean-To, which is to the west of the Main Building, is used for covered timber, green waste and bulky waste processing and additional bale storage. The open yard areas are paved and are used for external waste storage bays (C&D, glass, and metals), skip storage, truck parking and a vehicle washing area.

2.2 Waste Management Activities

The facility is licensed to accept and process 80,000 tonnes of waste per annum, comprising household waste, construction and demolition waste (C&D) and commercial and industrial waste (C&I).

2.2.1 Waste Types & Processes

The facility is licensed to accept the following waste types and quantities, as specified in Schedule A of the licence: -

- Household (25,000 tonnes)
- Commercial & Industrial (70,000 tonnes)
- Construction & Demolition (5,000 tonnes)

No hazardous wastes are accepted. The maximum amount of each waste type accepted, may be altered with the prior agreement of the Agency as long as the total maximum tonnage is not exceeded.

The key processes carried out at the facility include: -

- Segregation of recyclable materials (paper, cardboards, plastic, wood, metals, glass);
- Recycling of hard plastics through granulation;
- Bulking up of Municipal Solid Waste;
- Segregation and bulking of C&D waste;
- Transfer of recovered and residual materials to appropriately licensed recycling, recovery and disposal outlets;

Household Waste

Residual, or black bin household waste arrives in refuse collection vehicles and is transferred from the vehicles into large bulk transporters for consignment to an appropriately licensed landfill. Source segregated household dry recyclables are baled and stored prior to transfer to off-site permitted/licensed recycling facilities.

Commercial and Industrial Waste

Both mixed and segregated commercial waste is collected from commercial sources. Commercial waste containing recyclable material (paper, cardboard, glass, metal, green waste and wood) is delivered to the facility both by permitted third party hauliers and by GES vehicles. Plastic, card and paper are baled and stored prior to transfer to a suitable permitted/licensed off-site recycling outlet. Biodegradable wastes suitable for composting which is accepted at the facility are sent to an offsite composting facility. The remaining non-recyclable material is bulked and sent to appropriately licensed landfills. Shredding of hard plastics (PVC and Polypropylene) takes place on site for transport as raw materials for plastic goods manufacturers.

C&D Waste

Waste loads include mixed construction and demolition wastes and soil and stone. The material arrives in skips of varying sizes. The loads are inspected and then processed. The majority of the incoming C&D material is recovered and sent off-site either for re-use, or recycling. The non-recyclable materials are transferred to a licensed landfill.

2.2.2 Plant List

A list of the plant in use at the facility is given in Table 2.1. The plant provides 100% duty and 50% standby for waste processing.

Table 2.1 Plant List –

No.	Plant	Model	Operational Capacity tpd	Standby Capacity tpd
1	Loading Shovel	Volvo L90F	200	120
2	Polypropylene Shredder	-	1	-
3	Excavating Grab	Caterpillar 312	150	100

3. EMISSION MONITORING

The monitoring specified in the licence includes surface water, wastewater, groundwater, dust and noise monitoring. The monitoring locations are shown on Figure 3.1. The monitoring results are included in reports submitted to the Agency at quarterly intervals and an overview of the monitoring completed in 2011 is presented in this Section.

3.1 Surface Water Monitoring

The facility surface water drainage system collects run-off from paved areas and roof rainwater. The run-off is discharged to a culverted stream serving the Business Park at three separate locations. There are four monitoring locations (SW-1, SW-2, SW-3 and SW-4) which are shown on Figure 3.1.

SW-1 is on the outfall from an oil interceptor serving the yard areas to the east and west of the main recycling building. SW-2 is the runoff from the roof of the main recycling building. The flow through SW-1 (yard) combines with that through SW-2 (roof) and discharges to the stream to the west of the site. SW-3 is downstream of an oil interceptor on the drain that takes runoff from the western yard, and is a separate discharge point. SW-4 monitors the discharge from the roof of the lean-to in the north western section of the site.

The monitoring results are shown on Tables 3.1 to 3.4 which also include the proposed warning and action levels developed by GES in Q1 2010. There were a number of exceedances of the warning and action levels for both ammonia and conductivity. The cause of the exceedances is not known. A review of the outdoor material storage was conducted in early June 2011 at the western end of the site where outdoor material storage has previously been agreed with the Agency. Certain waste types were relocated and it is expected that this will lead to improvements in the surface water discharge quality.

Ormonde Environmental was contracted by GES on the 26th September 2011 to carry out integrity testing and complete a survey of the entire surface and foul water system. Additional cleaning of the pipelines and interceptors was also carried out during their three days at the site. This investigation revealed that the main surface water line running parallel to the building and outdoor materials storage area contained a significant amount of concrete. The concrete was removed and the pipelines have been deemed fit for purpose. Overall results for surface water at monitoring locations SW1, SW2 and SW3 had improved towards the latter half of 2011.

Table 3.1 Surface Water Monitoring Results 2011 SW-1

Parameter	Units	07/02	15/02	22/02	13/04	11/05	23/05	17/06	26/08	Warning Levels	Action Level
Ammonia	mg/l	6.2	6.933	0.71	3.82	0.21	2.31	<0.02	3.93	2.0	4.4
Conductivity	mS/cm	0.844	0.576	0.421	0.701	0.891	0.456	0.15	0.847	0.466	0.774

Parameter	Units	16/09	26/10	Warning Levels	Action Level
Ammonia	mg/l	0.69	1.28	2.0	4.4
Conductivity	mS/cm	0.501	0.260	0.466	0.774

Table 3.2 Surface Water Monitoring Results 2011 SW-2

Parameter	Units	07/02	15/02	22/02	13/04	11/05	23/05	17/06	26/08	Warning Levels	Action Level
Ammonia	mg/l	-	0.486	2.19	0.35	1.11	1.68	0.07	0.61	2.0	4.4
Conductivity	mS/cm	-	0.047	0.337	0.083	1.01	0.512	0.0122	0.681	0.466	0.774

- = Sample could not be taken due to dry weather conditions

Parameter	Units	16/09	26/10	Warning Levels	Action Level
Ammonia	mg/l	0.44	0.01	2.0	4.4
Conductivity	mS/cm	0.275	0.224	0.466	0.774

Table 3.3 Surface Water Monitoring Results 2011 SW-3

Parameter	Units	07/02	15/02	22/02	13/04	11/05	23/05	17/06	26/08	Warning Levels	Action Level
Ammonia	mg/l	5.82	4.87	3.88	1.11	6.21	4.71	0.53	6.26	2.0	4.4
Conductivity	mS/cm	1.003	0.592	0.412	0.231	0.967	0.629	0.267	0.812	0.466	0.774

- Shut off due to presence of firewater
 - Sample could not be taken due to dry weather conditions

Parameter	Units	16/09	26/10	Warning Levels	Action Level
Ammonia	mg/l	1.05	0.79	2.0	4.4
Conductivity	mS/cm	0.504	0.577	0.466	0.774

Table 3.4 Surface Water Monitoring Results 2011 SW-4

Parameter	Units	07/02	15/02	22/02	13/04	11/05	23/05	17/06	26/08	Warning Levels	Action Level
Ammonia	mg/l	-	0.38	0.58	0.02	1.32	0.43	0.07	0.69	2.0	4.4
Conductivity	mS/cm	-	0.053	0.529	0.064	1.124	0.401	0.0157	0.629	0.466	0.774

- = Sample could not be taken due to dry weather conditions

Parameter	Units	16/09	26/10	Warning Levels	Action Level
Ammonia	mg/l	0.15	<0.01	2.0	4.4
Conductivity	mS/cm	0.253	0.225	0.466	0.774

3.2 Foul water Monitoring

The wastewater discharge (vehicle cleaning and run off from hard-standing at the entrance to the main recycling building) to the municipal sewer is monitored at quarterly intervals. The wastewater passes through a petrol/oil interceptor before discharging to the municipal sewer. Flow is measured using a continuous flow meter.

The wastewater sampling is carried out at location FW-1, as shown on Figure 3.1. FW-1 is downstream of the interceptor and the continuous flow meter. The monitoring results are presented in Table 3.5, which also includes the emission limit values (ELV) set in the Licence. The ELV for surfactants was marginally exceeded in Q1, Q2 and Q3 and the ELV for TSS was marginally exceeded in Q1 and Q3. It is considered that the exceedance of the ELVs did not have any impact on the receiving waste water treatment plant.

In October 2011, GES applied to the Agency for a technical amendment of the licence to either increase the limit set for surfactants or remove the limit entirely. The ELV does not appear to take into consideration that the wastewater discharges to a foul sewer and is treated in a municipal wastewater treatment plant.

Table 3.5 Foul water Monitoring Results 2011.

Parameter	Units	Q1	Q2	Q3	Q4	Emission Limit
pH	pH Units	7.01	7.19	6.09	6.76	6 – 9
Temperature	°C	-	14.1	-	-	18
BOD	mg/l	172	238	165	109	400
COD	mg/l	247	496	654	491	1,100
Total Suspended Solids	mg/l	382	70	370	1,675	300
Oils, Fats & Greases	mg/l	8.4	<0.01	7.5	10.5	10
Surfactants (MBAS)	mg/l	0.33	0.9	0.41	0.86	0.2

3.3 Groundwater Monitoring

Groundwater monitoring is not specified in the licence, however monitoring is carried out bi-annually at two monitoring wells (BH-1 and BH-3) as agreed with the Agency. BH-1 is off-site in the adjoining Waterford City Council Composting facility (W0234-01) and BH-3 is on-site as shown on Figure 3.1.

There are no emission limits or trigger levels set in the licence and so the results are compared to the Interim Guideline Values (IGV) on groundwater quality published by the Agency and the Groundwater Regulations Threshold Value (GTV), which were introduced in 2010 (S.I. 9 of 2010). The IGV represent typical background or unpolluted conditions; however levels higher than the IGV may occur naturally depending on the local geological and hydrogeological conditions. While the GTV are more appropriate for large scale abstraction wells used for potable supply, they can be used to assess the significance of contamination

where present in non potable groundwater supplies. Because GTVs have not been established for all of the parameters monitored, the relevant IGV was used for comparative purposes.

The results are shown on Table 3.6 and 3.7 and indicate that there is no evidence that site activities are impacting on groundwater quality.

Table 3.6 Groundwater Monitoring Results –May 2011

Parameter	Units	BH-1	BH-3	IGV
BOD	mg/l	<4	<4	-
TSS	mg/l	222	103	-
Dissolved Oxygen	mg/l	9	10	NAC
Oils, Fats & Greases	mg/l	<0.01	<0.01	-
Total Phosphorus	mg/l	35	35	-
Ammoniacal Nitrogen	mg/l	<0.03	0.09	0.12
Conductivity	mS/cm	0.607	0.455	1.000
DRO	mg/l	<0.01	<0.01	0.01
Aliphatic Hydrocarbons	mg/l	<0.01	<0.01	-
Undecane	mg/l	<0.01	<0.01	-

Table 3.7 Groundwater Monitoring Results –November 2011

Parameter	Units	BH-1	BH-3	IGV	GTV
BOD	mg/l	<1	<1	-	-
TSS	mg/l	4,872	2,601	-	-
Dissolved Oxygen	mg/l	9	9	NAC	-
Oils, Fats & Greases	mg/l	<0.01	<0.01	-	-
Total Phosphorus	mg/l	3,076	404	-	-
Ammoniacal Nitrogen	mg/l	<0.03	<0.03	0.12	0.175
Conductivity	mS/cm	0.356	0.463	1.000	1.875
DRO	mg/l	<0.01	<0.01	0.01	-
Aliphatic Hydrocarbons	mg/l	<0.01	<0.01	-	-
Undecane	mg/l	<0.01	<0.01	-	-

3.4 Noise Monitoring

The annual noise survey was conducted in July 2011. The monitoring locations include three boundary locations (N1 – N3) and two off site noise sensitive locations (NS1 and NS2). The survey was conducted when the site was fully operational and confirmed that noise emissions fully complied with the licence and that the facility is not impacting negatively on the nearest sensitive receptors. A summary of the noise results is shown on Table 3.8.

Table 3.8 Noise Monitoring Results 2011

Station	Time	LAeq 30 min dB	LAF10 30 min dB	LAF90 30 min dB	Specific level* dB	Noise audible
N1	0834- 0904	71	72	59	71	Local facility emissions dominant, arising from waste processing plant in adjacent building, and loader and forklift in building and local yard area. Truck movements through local yard area also significant. No offsite noise audible.
N2	0801- 0831	69	71	57	69	Facility emissions dominant, particularly truck and forklift movements through local yard area, and vehicles through entrance. No other noise sources audible, apart from occasional vehicle movements offsite at adjacent premises, and power tool noise in nearest business unit.
N3	0911- 0941	57	50	43	47	Facility emissions clearly audible, chiefly from mobile plant and truck movements in nearest yard area. Significant screening provided by intervening building. Site becoming quieter from 0930. Offsite, noise emissions from road traffic to W almost continuously audible in background. Sporadic local traffic outside boundary dominant when present. Bird song/calls and aircraft.
NS1	1027- 1057	60	63	42	<<42	No emissions audible from facility. Intermittent local traffic dominant when present. Various noise sources audible within residential estate: vehicle movements, voices, children playing. Distant road traffic to SW, W, and NW continuously audible in background. Bird song/calls and aircraft.
NS2	0950- 1020	66	71	57	<<57	No facility emissions audible. Passing road traffic almost continuously audible over 300 m length, and dominant. Between traffic lulls, grass mower audible at nearby sports pitch. No other noise audible apart from bird song/calls and aircraft.

*Specific level: Sound pressure level contribution considered attributable to facility, determined using real time assessment, field notes, time history profiles, statistical analysis, frequency spectra, near field correction if applicable, and other parameters.

3.5 Dust Monitoring

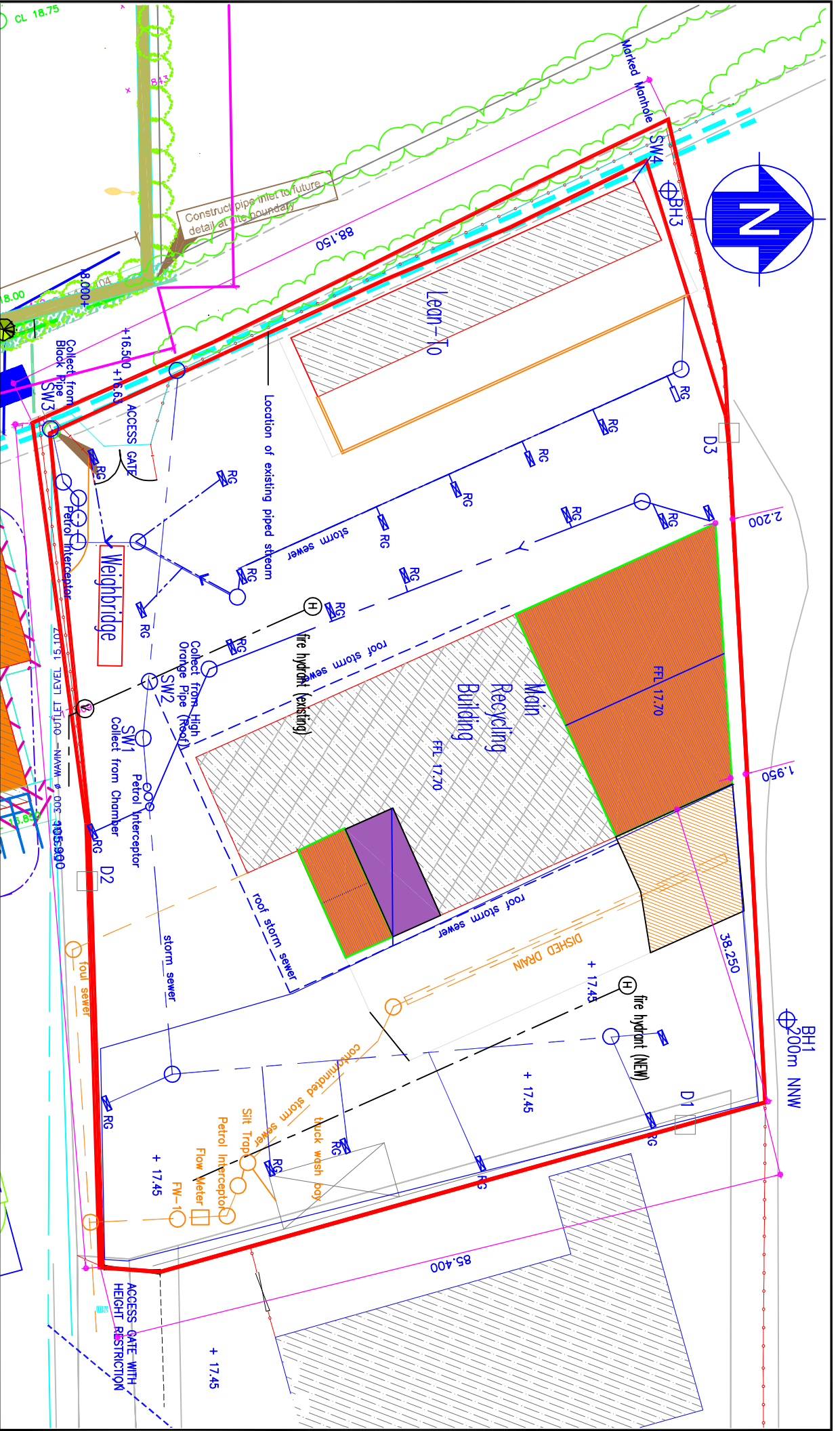
Dust monitoring was carried out on three occasions at three on-site locations (D1, D2 and D3) in August, September and December 2011. The results of the monitoring are included on Table 3.9.


The dust emission limit (350 mg/m²/day) was marginally exceeded on one occasion (D2 in August 2011). The facility is located in an Industrial Estate and D2 is located on the southern boundary between the facility and an adjoining commercial property. The Agency were notified of the exceedance. No complaints relating to dust were received from neighbouring premises during the reporting period.

Table 3.9 Dust Monitoring Results 2011

Dust Emission (mg/m²/day)	August	September	December	Emission Limit
Sample Location	2011	2011	2011	(mg/m²/day)
D1	144.7	282.4	251	350
D2	373.6	314.0	145	350
D3	*	*	195	350

* - Contaminated by bird excrement and therefore not suitable for analysis.





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CLIENT
Greenstar Environmental Services

TITLE
Monitoring Locations – Waterford

details

FIGURE No.
3.1

SCALE
 NTS

REV.
 A

4. SITE DEVELOPMENT WORKS

4.1 Engineering Works

An assessment of the paved yard areas was carried out in Q4 2011 and resurfacing works were completed in January 2012. There are no other engineering works planned for 2012.

4.2 Summary of Resource & Energy Consumption

Table 4.1 presents an estimate of the resources used on-site during the reporting period.

Table 4.1 Estimate of Resources Used On-Site in 2011

Resources	Quantities
Diesel (green)	60,000 litres
Electricity	266,900 kWh Units
Hydraulic Oil	1,100 litres
AdBlu Diesel Additive	2,200 litres
Mains Water	310,000 litres
Odour Neutraliser	350 litres

4.3 Bund Integrity Testing

Condition 3.11.5 of the licence requires that tank and bund testing be carried out at least once every three years. Integrity testing was carried out in October 2011 and the bunds, interceptors and drainage lines were passed fit for purpose. The reports are retained at the facility for Agency inspection.

5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

Table 5.1 shows the total quantities of waste received and consigned from the facility in 2011. Table 5.2 shows the total quantities of waste received and consigned in 2010. Table 5.3 shows the quantities of waste received and consigned in previous years. A breakdown of the waste types is provided in accordance with the European Waste Catalogue and Hazardous Waste list. A more detailed description of the wastes accepted and consigned is provided in the PRTR submission in Appendix 1.

The total quantity of waste received was 57,592 tonnes. The total waste consigned was 58,231.15 tonnes. All the wastes consigned went to authorised recovery and disposal facilities approved by the Agency.

Table 5.1 Waste Received & Consigned 2011

EWC	Description	Waste In	Waste Out
10 01 01	Ash	17.00	212.15
12 01 02	Metal Dust		22.00
13 05 03	Interceptor sludge	35	
15 01 01	Segregated cardboard & paper packaging	3,842.00	8,369.00
15 01 02	Segregated plastic packaging	1,943.00	638.00
15 01 03	Segregated wood packaging	13.00	1130
15 01 04	Segregated metal packaging - aluminium cans	14.00	45
15 01 05	Segregated tetrapacks	2.00	
15 01 06	Segregated mixed packaging	9,736.00	4,494.00
15 01 07	Glass packaging	1052	1,125.00
17 01 01	Concrete from C&D waste	4.00	
17 05 04	Soil & stone from C&D waste	42.00	
17 08 02	Gypsum-based construction material e.g. Plasterboard	3,422.00	3,320.00
17 09 04	Mixed C&D waste	2,135.00	2,371.00
19 12 07	Shredded Timber		664.00
19 12 12	C&I Dry Mixed		6,583.00
19 12 12	MSW Mixed Municipal		23,301.00
20 01 01	Paper & cardboard from municipal	2,408.00	1,040.00
20 01 02	Glass from municipal sources	174.00	28.00
20 01 08	Commercial food waste	384.00	407.00
20 01 11	Textile		1.00
20 01 35*	WEEE	10.00	
20 01 38	Wood waste from municipal sources (e.g. furniture)	1,571.00	35.00
20 01 39	Plastic from municipal sources	97.00	1,647.00
20 01 40	Metals from municipal waste	188	232.00
20 01 41	Ash	161.00	
20 03 01	Mixed residual waste	21,486.00	
20 03 01	Mixed dry recyclables	8,598.00	
20 03 03	Street-cleaning residues	258.00	1,213.00
20 03 07	Bulky Waste		1,354.00
Total Received		57,592.00	
Total Consigned			58,231.15

Table 5.2 Waste Received & Consigned 2010

EWC	Description	Waste In	Waste Out
10 01 01	Bottom Ash (Wood)	440.99	326.40
10 10 08	Casting cores containing gypsum from non-ferrous metallurgy	1,411.15	1,437.01
15 01 01	Cardboard Packaging	4,412.90	7,815.65
15 01 02	Plastic Packaging	273.82	481.21
15 01 03	Wooden Packaging	1,022.15	1,482.50
15 01 04	Metallic Packaging	49.04	44.76
15 01 06	Mixed Packaging	6,012.17	244.62
15 01 07	Glass Packaging	1,567.98	1,558.89
16 01 03	Tyres		2.04
16 02 14	WEEE	4.08	
17 01 07	C&D	1,700.51	3,896.98
17 02 01	Timber from C&D	106.09	
17 05 04	Soil & Stones	295.76	55.38
17 08 02	Plasterboard	2.08	
20 03 03	City Council blocked surface water drain, silt & litter	7.56	
20 01 01	Newspaper & Pamphlets	13.08	
20 01 01	Paper	1,489.76	596.48
20 01 08	Commercial Brown Bin	152.16	9.16
20 01 08	Household Brown Bin	3,150.79	3,155.13
20 01 25	Commercial Canteen Waste	0.34	
20 01 36	WEEE		1.76
20 01 38	Wood	9.49	
20 01 39	Plastic (PP & PVC)	1,288.66	
20 01 40	Metal	188.5	365.77
20 02 01	Green Waste	646.24	560.42
20 03 01	Mixed Municipal Waste	16,384.68	22,087.78
20 03 01	Mixed Dry Recyclables	1,140.88	1,575.79
20 03 07	Skip Waste C&I	7,240.14	2,462.61
	Total Received	49,011.00	
	Total Consigned		48,120.34
	Total Recovered		25,706.16
	Total Disposed		22,414.18
	Recovery Rate		53.42%

Table 5.3 Waste Received & Consigned

	2010	2009	2008
Total Received	49,011	48,560	52,055
Total Consigned	48,120.34	47,574	52,212
Total Recovered	25,706.16	20,892	20,113
Total Disposed	22,414.18	26,682	32,099
Recovery Rate	53.42%	43.92%	38.52%

6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

6.1 Incidents

The routine monitoring identified a number of incidents, which comprised minor exceedances of the dust deposition limit and the ELV for detergents and suspended solids from the foul water discharge. During 2011, GES applied for a Technical Amendment of the licence to change the detergents ELVs. The Agency was informed of each incident.

In February 2011, a minor oil spill occurred in the western yard. In response, facility staff closed the shut off valve on the surface water drainage system prior discharge location SW-3 and the oil did not discharge from the site. A vacuum tanker was used to remove the liquid from the interceptor serving this section of the surface water drainage system and the contents were removed to an appropriate facility offsite. There was no discharge of potentially contaminating material from the facility. The Agency was informed of the incident and the corrective actions implemented.

The reported incidents are not considered to have caused any significant impacts or impairment of the environment.

6.2 Register of Complaints

GES maintains a register of complaints received at the facility offices. No complaints were received during the reporting period.

7. ENVIRONMENTAL DEVELOPMENT & CONTROL

7.1 Environmental Management Programme Report

GES have implemented an Integrated Management System (IMS) in accordance with the requirements of Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and International Standard Organisation (ISO) 14001:2004 in order to manage the Health, Safety and Environmental performance of their business and to control health and safety risk and to minimise their environmental aspects and impacts.

The IMS has been developed for the achievement of continual improvement taking into account the requirements of the Waste Licence Conditions. GES has prepared and effectively implement documented procedures and instructions in accordance with the requirements of both the OHSAS 18001:2007 and ISO 14001:2004.

The schedule of Objectives and Targets, including their status for 2011 (Table 7.1), as well as the proposed Objectives and Targets for 2012 (Table 7.2) are presented below. An index of procedures used at the facility is included in Appendix 2.

7.1.1 Site Management Structure

Management and Staffing structure: -

Name: Aidan Shanahan

Responsibility: General Manager, South East

Experience: Over 9 years experience waste management experience; has completed the FÁS waste management course.

Name: Tom Walsh

Responsibility: Operations Manager

Experience: Over 10 years experience waste management experience; has completed the FÁS waste management course.

Name: Ivan Cummins

Responsibility: Yard Supervisor

Experience: 27 years experience waste management experience.

7.1.2 Staff Training

Staff training carried out during the year included mainly safety training as well as chemical safety & spill training and fire safety training. Details on staff training are retained on the company's electronic Training Management System (TMS).

7.2 Environmental Management Programme

7.2.1 Schedule of Objectives 2011

The objectives achieved during this reporting period are outlined in Table 7.1. Details on the progress made are also shown and an evaluation of what has been achieved to date is presented below.

Objective 1 – Awareness & Training

New ISO-accredited training schedule and records were assessed by external consultant in September 2011 and complied with the ISO requirements.

Objective 2 – Energy & Resource Consumption –

Quarterly usage was tracked. Electricity growth during the year related to an increase in plastic granulation operations.

Objective 3 – Review & Assess the Effectiveness of Nuisance Control Procedures

There were no complaints in 2011.

Objective 4 – Pollution Prevention –

There were no exceedances causing pollution in 2011.

Objective 5 – EMS Accreditation

The facility was accredited to ISO14001 and OHSAS 18001 in September 2011.

7.2.2 Schedule of Objectives 2012

A schedule of targets and objectives for 2012 has been set by the management of the facility. These objectives are outlined in Table 7.2.

7.3 Communications Programme

GES are committed to setting the standard in waste management and ensuring environmental compliance in all operations. In addition, GES's Environmental, Health & Safety Policy makes a specific commitment to ensure that this policy and environmental records are available to the public and interested parties.

To this end GES has drawn up a Communications Programme, which details how members of the public are facilitated in accessing and viewing environmental information at the facility. Members of the public who wish to inspect these files may do so at any reasonable time by making an appointment with the Operations Manager using the telephone number posted on the main facility entrance sign.

7.4 Report Financial Provision

GES has adequate insurance cover for environmental liabilities to €10,000,000 for any one occurrence, which will apply to "sudden identifiable and unintended incidents".

7.5 Nuisance Controls

GES has contracted a vermin control company to carry out nuisance control at the facility. Prevent a Pest provide pest control at the facility and also provide for the treatment of insects at the facility if necessary. Daily litter picks and road-sweeping are carried out by yard operators during the course of their daily duties. An odour control system is in place at the facility which can be operated automatically or manually by the Environmental Officer and Operations Supervisor as needed. A site inspection is carried out daily and recorded on the facilities inspection log which is controlled as part of the current Integrated Management System.

7.6 European Pollutant Release and Transfer Register Regulation

Under the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006 GES are required to submit information annually to the Agency. A copy of the information submitted to the Agency via the web-based data reporting system is included in Appendix 1.

7.7 Wastewater Volumes

The volume of wastewater generated during the reporting period was 520 m³. A total of 11.88 tonnes of oil interceptor waste and sludge was transported off site in 2011.

Table 7.1 Objectives and Targets for 2011 –

No	2011 Objective	Target	Responsibility	Status
1	Awareness and Training	Continue to ensure that appropriate training is carried out specific to all site personnel as per the Company's established Training Matrix.	Site Management	Ongoing
2	Energy & Resource Consumption	Summarise energy and resource usage on a quarterly basis with a view to reducing consumption	Site Management	Quarterly
		Assess whether an Energy Audit should be carried out.		
3	Review and Assess the Effectiveness of Nuisance Control Procedures	Continually review and assess all nuisance control procedures to ensure minimal impact on the surrounding area.	Site Management	Ongoing
4	Pollution Prevention	Strive to ensure that monitoring results comply with the licence limits and investigate any exceedances of emission limit values.	Site Management	Ongoing
5	EMS Accreditation	Issue new EMS documentation	Management team	September 2011
		Achieve accreditation to ISO 14001	Management team	September 2011

Table 7.2 Schedule of Objective and Targets 2012 –

No	Objective	Target	Timescale	Responsibility
1	Awareness and Training	Continue to ensure that appropriate training is carried out specific to all site personnel as per the Company's established Training Matrix.	Q1-Q4 2012	Site Management
2	Energy & Resource Consumption	Continue to summarise energy and resource usage on a quarterly basis with a view to reducing consumption	Q1-Q4 2012	Site Management
3	Review and Assess the Effectiveness of Nuisance Control Procedures	Continually review and assess all nuisance control procedures to minimise impact on the surrounding area.	Q1-Q4 2012	Site Management
4	Pollution Prevention	Strive to ensure that emissions comply with the licence limits and investigate any exceedances of emission limit values.	Q1-Q4 2012	Site Management
5	Infrastrucutre	Carry out repairs to the boundary fence	Q2 2012	Site Management

8. OTHER REPORTS

No other reports were specified by the Agency.

APPENDIX 1

European Pollutant Release and Transfer Register

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011
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1. FACILITY IDENTIFICATION

Parent Company Name	Greenstar Environmental Services Limited
Facility Name	Greenstar Environmental Services Limited
PRTR Identification Number	W0177
Licence Number	W0177-03

Waste or IPPC Classes of Activity

No.	class_name
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Carrignard
Address 2	Six Cross Roads
Address 3	Business Park
Address 4	Waterford City
	Waterford
Country	Ireland
Coordinates of Location	-7.14684 52.2345
River Basin District	IESE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Garrett Walsh
AER Returns Contact Email Address	garrett.walsh@greenstar.ie
AER Returns Contact Position	Environmental Officer
AER Returns Contact Telephone Number	051-333922 / 051-382270
AER Returns Contact Mobile Phone Number	086-1705034
AER Returns Contact Fax Number	051-333945
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(c)	Installations for the disposal of non-hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Greenstar Environmental Services Limited

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0				N/A
Methane flared	0.0				0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

* Select a row by double-clicking on the Pollutant Name (Column B)

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

* Select a row by double-clicking on the Pollutant Name (Column B)

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS	
POLLUTANT	
Pollutant No.	Name

* Select a row by double-clicking on the Pollutant Name (Column B)

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
303	BOD	C	PER	Calculated using flow to sewer over the year. Analysis is ISO accredited	88.92	88.92	0.0	0.0
306	COD	C	PER	Calculated using flow to sewer over the year. Analysis is ISO accredited	245.44	245.44	0.0	0.0
240	Suspended Solids	C	PER	Calculated using flow to sewer over the year. Analysis is ISO accredited	324.61	324.61	0.0	0.0
314	Fats, Oils and Greases	C	PER	Calculated using flow to sewer over the year. Analysis is ISO accredited	4.576	4.576	0.0	0.0
308	Detergents (as MBAS)	C	PER	Calculated using flow to sewer over the year. Analysis is ISO accredited	0.325	0.325	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND	
POLLUTANT	
No. Annex II	Name

* Select a row by double-clicking on the Pollutant Name (Column B)

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND	
POLLUTANT	
Pollutant No.	Name

* Select a row by double-clicking on the Pollutant Name (Column B)

METHOD			Please enter all quantities i
METHOD			
M/C/E	Method Used		
	Method Code	Designation or Description	Emission Point 1
			0.0

) then click the delete button

METHOD			Please enter all quantities i
METHOD			
M/C/E	Method Used		
	Method Code	Designation or Description	Emission Point 1
			0.0

) then click the delete button

n this section in KGs	
QUANTITY	
T (Total) KG/Year	A (Accidental) KG/Year
0.0	0.0

n this section in KGs	
QUANTITY	
T (Total) KG/Year	A (Accidental) KG/Year
0.0	0.0

APPENDIX 2

Procedures List



Doc. No.: Control	Revision No.: As Shown	Issue Date: As Shown
Approved By:	Malcolm Dowling – <i>Group Environmental Manager</i>	Page 1 of 4
	Oliver Callan – <i>Group H&S Manager</i>	

Integrated Procedures - IP

IP-01	Document & Record Control Procedure	Rev 01, 05/07/10
IP-02	Health & Safety Risk Assessment Procedure	Rev 01, 05/07/10
IP-03	Environmental Aspects & Impacts Procedure	Rev 01, 05/07/10
IP-04	Legal & Regulatory Requirements Procedure	Rev 02, 05/11/10
IP-05	Objectives, Targets & Management Programmes Procedure	Rev 01, 05/07/10
IP-06	Competence, Training & Awareness Procedure	Rev 01, 05/07/10
IP-07	Communication & Consultation Procedure	Rev 01, 05/07/10
IP-08	Monitoring, Measurement & Improvement Procedure	Rev 01, 05/07/10
IP-09	Evaluation of Compliance Procedure	Rev 02, 15/09/11
IP-10	Non Conformances, Corrective/Preventive Actions Procedure	Rev 03, 01/02/11
IP-11	Internal Audit Procedure	Rev 02, 07/06/11
IP-12	Management Review Procedure	Rev 01, 05/07/10
IP-13	Control of Contractors/Visitors Procedure	Rev 02, 29/10/10
IP-14	Health & Safety & Environmental Monitoring	Rev 02, 29/10/10
IP-15	Emergency Preparedness & Response Procedure	Rev 02, 01/02/11

Safety Procedures - SP

SP-01	Permit to Work Procedure	Rev 01, 05/07/10
SP-02	Maintenance & Calibration Procedure	Rev 03, 04/04/11
SP-03	Mobile Plant Procedure	Rev 01, 05/07/10
SP-04	Fork Truck Procedure	Rev 01, 05/07/10
SP-05	Operation of Fixed Plant Procedure	Rev 01, 05/07/10
SP-06	Lock Out / Tag Out Procedure	Rev 01, 05/07/10
SP-07	Health & Safety Notification Procedure	Rev 01, 05/07/10
SP-08	Motor Claim Notification Procedure	Rev 01, 01/02/11
SP-09	MSW Shredder routine Maintenance & Clearing of Blockages Procedure (SCGT)	Rev 01, 01/12/11
SP-10	Weighbridge & Tipping Procedure (SCGT)	Rev 01, 01/12/11



Doc. No.: Control	Revision No.: As Shown	Issue Date: As Shown
Approved By:	Malcolm Dowling – <i>Group Environmental Manager</i>	Page 2 of 4
	Oliver Callan – <i>Group H&S Manager</i>	

Environmental Procedures - EP		
EP-01	Office Waste & Energy Management Procedure	Rev 01, 05/07/10
EP-02	Decommissioning and Aftercare Procedure	Rev 02, 14/09/11
EP-03	Environment Communications Procedure	Rev 02, 13/09/10
EP-04	Waste Permits & Licences Procedure	Rev 01, 05/07/10
EP-05	Waste Acceptance Procedure	Rev 01, 05/07/10
EP-06	Unacceptable Waste Procedure	Rev 01, 05/07/10
EP-07	Waste & Material Storage Procedure	Rev 01, 05/07/10
EP-08	Waste Processing Procedure	Rev 01, 05/07/10
EP-09	Site Infrastructure Procedure	Rev 01, 05/07/10
EP-10	Nuisance Management Procedure (Site Specific)	(Site Specific)
EP-11	Civic Amenity Site Procedure	Rev 01, 05/07/10