Unit 15
Melbourne Business Park
Model Farm Road
Cork

O'Callaghan Moran & Associates
ENVIRONMENTAL MANAGEMENT FOR BUSINESS

E:info@ocallaghanmoran.com
www.ocallaghanmoran.com
T: 021 434 5366

ANNUAL ENVIRONMENTAL REPORT

STARRUS ECO HOLDINGS LTD

FASSAROE MATERIALS RECOVERY FACILITY

FASSAROE, BRAY,

COUNTY WICKLOW

LICENCE NO. W0053-03

JANUARY 2016 – DECEMBER 2016

Prepared For: -

Starrus Eco Holdings Ltd,
Fassaroe,
Bray,
Co. Wicklow

Prepared By: -

O' Callaghan Moran & Associates,
Unit 15 Melbourne Business Park,
Model Farm Road,
Cork.

30th March 2017

Project	Annual Environmental Report 2016			
Client	Starrus Eco Holdings Ltd W0053-03			
Report No	Date	Status	Prepared By	Reviewed By
0480604	29/03/2017	Draft	Martina Gleeson PhD.	Jim O'Callaghan MSc
0480604	30/03/2017	Final	Martina Gleeson PhD.	Jim O'Callaghan MSc

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1. INTRODUCTION

This is the 2016 Annual Environmental Report (AER) for the Starrus Eco Holdings Ltd (SEHL), Materials Recovery & Transfer facility (MRF) at Fassaroe, County Wicklow. It covers the period from the 1st January 2016 to the 31st December 2016. Transfer of the licence from Greenstar Limited to SEHL was completed in March 2014.

The content is based on Schedule G of the Waste Licence (Reg. No. W0053-03) and the report format follows guidelines set in the "Guidance Note for Annual Environmental Report" issued by the Environmental Protection Agency (Agency)[1]. Account is also taken of the AER Draft Guidance Document and AER Information Templates issued by the Agency in January 2013[2].

[1] EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency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

The installation is located close to the N11 at Fassaroe, Bray, County Wicklow. The site comprises three main waste processing buildings, the original transfer building located close to the site entrance at the southern side of the site and adjoining Phase 1 & 2 waste processing buildings which are located in the centre of the site. There is also an new administration building incorporating office, canteen and toilet facilities; a vehicle wash; 2 no. weighbridges and a weighbridge office; office type portacabins (formerly used as offices); truck and empty skip parking areas and vehicle maintenance shed which is adjacent the original transfer building. There is a surface water retention lagoon to the east of the processing building.

2.2 Waste Management Activities

The depot is an integrated waste management installation. The licence allows for the following activities:

- bulking of municipal solid waste prior to transfer off-site for disposal;
- in-vessel composting of biodegradable waste;
- wood shredding;
- processing/storage of dry recyclables;
- recovery of construction and demolition waste;
- acceptance of waste at a civic waste facility, which includes hazardous waste such as bonded asbestos waste, WEEE and chlorofluorocarbons.

With the exception of composting, which has not yet started, all of the other activities are on-going. In December 2009, the agency technically amended the licence to allow for a change to the hours of operation so that SEHL can carry out indoor processing of dry mixed recyclable material on a 24-hour day, 7-day week basis in the Phase 1 processing building.

With the exception of this activity, the installation can be operated only during the hours of 7:30 to 21:00 Monday to Saturday inclusive as conditioned in the Licence.

2.2.1 Waste Type & Processes

The installation is licensed to accept a maximum of 200,000 tonnes of waste annually. This comprises the following waste types and volumes, as specified in Schedule A of the Licence: -

- Household and Commercial (143,560 tonnes),
- Construction & Demolition (54,040 tonnes),
- Hazardous (2,400 tonnes).

The following processes are carried out:

Mixed Municipal Solid Waste (MSW)

All mixed MSW containing a putrescible fraction is handled inside the original Transfer Building. The incoming waste is deposited on the floor of the building and is then either pushed into an open trailer or compacted, for removal and disposal or recovery at a licenced facility.

Dry Mixed Recyclables (DMR)

DMR is deposited onto the floor of the Phase 1 Transfer Building. Mixed DMR is separated, using a sorting line, into paper, cardboard, aluminium, steel, plastic bottles and plastic film fractions, which are then baled separately and stored pending removal for recycling. Source segregated DMR is baled directly and stored pending consignment.

Non Putrescible Commercial and Industrial (C&I)

Non putrescible C&I waste delivered by waste contractors is off-loaded in the Phase 2 building. Non putrescible C&I from the site's civic waste facility (public and commercial enterprises) is transferred to the Phase 2 building.

The processing is carried out indoors. The materials are pre sorted to remove bulky items and the remaining waste is fed into the C&I/C&D processing line. A 3D trommel is used to remove oversize items and the material then passes through a star-screener unit to remove the fine fraction containing subsoil and topsoil. Over-band magnets are used to separate ferrous metals from the waste. Material is passed through a picking station to remove metals, concrete/stone, timber, hard plastics and residual material.

Timber is sent to the on-site timber shredder. Metals are stored pending consignment from the site to an approved facility.

Construction and Demolition (C&D) Waste

The material is processed inside the Phase 2 building using the same processing line as for the C&I wastes described above. The fines are sent to landfill for use as cover material. Timber is sent to the on-site timber shredder. Metals are stored pending consignment from the site.

Wood, Timber and Green Waste

The wood and timber recovered on-site is shredded externally in the north of the site and sent off-site for disposal or recovery. Untreated timber accepted at the site is classed as A-grade timber and segregated from treated & recovered timber.

Green waste is stored pending transfer to an off-site composting facility. Although the Licence allows for in-vessel composting of biodegradable waste, this has not yet started.

Civic Amenity Area

The civic amenity area is located to the Northwest of the original Transfer Building. There are separate bays for timber, green waste, metals and mixed wastes.

Hazardous Wastes

The Licence allows the acceptance of small volumes of hazardous waste at the civic amenity area (WEEE, bonded asbestos materials and chlorofluorocarbons). These wastes are stored in the waste quarantine area in suitable receptacles pending removal off site to approved facilities.

2.2.2 Plant List

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

Table 2.1 Existing Plant

No.	Plant	Model	Processing Capacity
1	Fuchs Grab F4	MHL340	30t/hr
1	Volvo Loading Shovel	L70E	20t/hr
1	Volvo Loading Shovel	L150	85t/hr
2	Linde Forklifts		40hr/wk
1	Fuchs Grab	Terex 331	30t/hr
1	DMR Process line	Turmec	8t/hr
1	DMR Baler	Bollegraaf HBC 60	70t/day
1	Generator		standby
1	C&I/C&D Process Line	Waltec	35t/hr
1	Erin Stone Screener	Fingerscreen	400t/day
1	Doppstadt Trommel	SM-620	30t/hr
1	Beast Timber shredder	3680	40t/hr
1	Tractor	Massey Ferguson 4255	2hr/wk
1	MSW compactor		80t/day
1	Weighbridge 2 Scales	RiteWeigh Aran Series 18 m	62hr/wk

3. EMISSION MONITORING

SEHL implements a comprehensive environmental monitoring programme to assess the significance of emissions from site activities. The programme for 2016 included groundwater, surface water, leachate, sewer emissions, landfill gas, noise and dust monitoring. The monitoring locations are shown on Figure 3.1. The monitoring results are submitted to the Agency at quarterly intervals. An overview of the monitoring conducted in the reporting period is presented in this Section, with summary data tables in Appendix 1.

3.1 Groundwater

There are four (4) on-site groundwater monitoring wells (BH-2, BH-5, BH-6 and BH-7). Monitoring wells BH-2, BH-5 and BH-7 are positioned downgradient of the former landfill area while BH-6 is upgradient. The upgradient monitoring well (BH-6) was installed in March 2009 to replace the previous well that was removed during construction of the administration building. This location was dry throughout 2016.

3.1.1 Groundwater Levels

Groundwater levels were recorded at quarterly intervals in each of the wells. Based on the level data the direction of groundwater flow is north easterly.

3.1.2 Groundwater Quality

Observation 2 of the Agency's audit report for the Fassaroe Depot (W0053-03) dated the 26th April 2012 relates to the fact that the existing up-gradient well (BH-6) has been dry for a number of monitoring events. The Agency required SEHL to complete an investigation of the feasibility of using an offsite groundwater well for monitoring purposes. A report was submitted to the Agency in June 2012 following this investigation confirming that there are no offsite upgradient groundwater wells suitable for use. In the absence of a suitable alternative off-site upgradient monitoring point and, for the purposes on interpreting the groundwater monitoring results, the Agency agreed to assume that the groundwater upgradient of the SEHL installation is typical of unpolluted Irish groundwater.

Groundwater "Warning Levels" were agreed for use by the Agency on the 17th December 2013. These Warning Levels are to be recalculated annually as part of the annual environmental report (AER) and implemented in the following reporting year.

These warning levels have been in use from Q4 2013 onwards. The recalculated Warning levels for 2017 are summarised in Table 3.1.

Table 3.1 2017 Groundwater Warning Levels

2017 Revised Triggers	EC	Ammonia	Chloride	pH
BH-2	4.390	0.13	85.49	8.21
BH-5	3.095	0.33	74.84	8.03
BH-7	1.280	8.32	32.20	8.66

Groundwater quality was monitored at quarterly intervals. The sampling and analysis was carried out in accordance with recognised quality assurance and control procedures. The range of quarterly and annual analysis was as specified in Schedule C of the Waste Licence and includes pH, electrical conductivity and organic, inorganic and microbiological parameters. The summary of the results is included in Appendix 1.

The level of ammonia detected in BH-7 in February 2016 was greater than the warning level, however the level detected in March 2016 was lower than the warning level. The elevated ammonia levels in February 2016 are thought to have been anomalous. The level of conductivity detected in BH-7 in May 2016 while greater than the warning level, was within the GTV range. The field conductivity was measure again in June and it was below the warning level. The elevated conductivity levels in May 2016 are thought to have been anomalous.

The results of the monitoring in the Glenmunder Stream (refer to Section 3.2) do not indicate any impact in relation to ammonia or conductivity in the samples collected downstream of BH-7. The water quality in the three wells was generally consistent with that established in the previous monitoring and is generally reflective of the sites historic use as a landfill.

3.1.3 Estimated Annual and Cumulative Quantity of Emissions to Groundwater

There are no direct emissions to groundwater. Indirect emissions include incidental rainfall and storm water run-off from some of the paved areas.

All surface water from the paved areas is diverted away from the filled areas to the on-site surface water lagoon thereby reducing the potential indirect impact of surface water on groundwater quality. Rainwater from roofed areas is now diverted to a water harvesting tank for use in dust suppression. Section 3.2 discusses the quantities of emissions to surface water.

LEGEND: MONITORING LOCATIONS

Denotes Monitoring Location
(BH, GAS and LEACHATE)
(SURFACE WATER, SEWER and DUST)

#	I.D.	EASTING	NORTHING
1	SE-1	324309.01	218051.50
2	BH5/GS-01	324311.85	218157.81
3	BH/GS-02	324212.67	218255.62
4	BH-6	324212.67	218266.62
5	BH-7	324330.71	217905.07
6	GS-05	324331.23	218071.80
7	GS-07	324146.36	218021.76
8	GS-08	324118.57	218049.52
9	GS-09	324094.55	218100.07
10	GS-11	324100.93	218272.43
11	L-01	324231.96	218165.23
12	L-02	324108.57	218077.92
13	L-03	324552.44	218035.59
14	SW-1	324132.36	218322.94
15	SW-2	324247.97	218240.29
16	SW-3	324326.38	218166.72
17	SW-4	324359.53	218124.20
18	SW-5	324289.90	218185.10
19	N1	324310.04	217965.54
20	N2	324313.86	218013.03
21	N3	324325.62	218143.04
22	N4	324209.97	218262.19
23	NSL1	324305.76	217958.30
24	NSL2	324299.20	217845.31
25	DS-01	324122.92	218288.56
26	DS-02	324265.71	218205.11
27	DS-03	324315.24	218005.08
28	DS-04	324161.16	218013.86

NOTES

REV	DATE	DESCRIPTION	DRN	CHKD	APP
A	05.06.2008	LAYOUT	MW	JOC	JOC

O' Callaghan Morcan & Associates.
Granary House, Rutland Street,
Cork, Ireland.
Tel. (021) 4321521 Fax. (021) 4321522
email : info@ocallaghanmorcan.com
environmental management for business

CLIENT

GREENSTAR

TITLE

SITE LAYOUT
FASSAROE
Monitoring Locations

SCALE	FIGURE No.	REV.
1250 A3	3.1	A

3.2 Surface Water

The surface water drainage system in and around the site is dominated by the proximity of the Glenmunder Stream along the north eastern boundary. The Glenmunder ultimately drains to the River Dargle, which is a designated salmonid river. Surface water run-off from the roof of the administration building and new car park area discharges to the Glenmunder via a silt trap and oil interceptor.

Surface water quality is monitored at four locations (SW-1, SW-2, SW-3 and SW-4) on the Glenmunder and at one discharge point from the installation to the Glenmunder (SW-5). SW-1 is upstream of the site, SW-2 and SW-3 are along the site boundary and SW-4 is downstream of the site. SW-5 is the discharge point for rainfall runoff from the roof of the administration building and the car park area to the Glenmunder. Quarterly surface water sampling was carried out at all surface water locations in 2016.

The monitoring was conducted at quarterly intervals and included in-situ and laboratory testing. The range of analysis was as specified in Schedule C of the Waste Licence and includes dissolved oxygen, pH, electrical conductivity, and organic and inorganic parameters. The sampling and analysis was carried out in accordance with recognised quality assurance and control procedures. A summary of the monitoring results are included in Appendix 1.

The monitoring has confirmed that the surface water quality is generally consistent with that in a rural area and there is no evidence that site activities or the surface water discharge at SW-5 is impacting on the stream.

The last report on the biological assessment of the Glenmunder River was submitted to the Agency in November 2015. A biological assessment is carried out every two years and will be carried out again in 2017. Very few differences were noted between the survey results for 2015 and those of 2011 and 2013. Water quality in 2015 both up and down stream is classed as poor and at risk. There are no significant differences recorded between the upstream and downstream location therefore it is assumed that the drop in quality can be ascribed to an impact occurring upstream of SW-1.

3.3 Wastewater

Wastewater from the installation (floor wash downs, vehicle washing) discharges to the municipal foul sewer. A wastewater sample was collected monthly from monitoring location SE-1. It was not possible to collect samples in May 2016, as there was no flow at the monitoring location. The range of analysis was as specified in Schedule C of the licence and included pH, COD, BOD, suspended solids, sulphates, oils, fats and greases, mineral oils and detergents. The monitoring results are in Appendix 1.

There were exceedances of the ELV for BOD in January, February, April and June 2016. The ELV for TSS was also exceed in February, while the ELV for COD was exceeded in the June monitoring event. An investigation in June 2016 into these exceedances identified a problem with the pump, which was only functioning intermittently. This has now been repaired and there has been a visible improvement in the quality of the effluent in the lagoon. SEHL has put a procedure in place for the regular inspection and preventative maintenance of the pump.

3.4 Leachate

Leachate is generated by rainfall in the former landfill area. There are three leachate monitoring wells the locations of which are shown on the drawing in Figure 3.1.

3.4.1 Leachate Levels

Levels were monitored at monthly intervals during the reporting period. In general the wells were either dry or contained very small volumes of liquid at the base which could not be sampled. As these wells have been consistently dry OCM investigated the feasibility of using the on-site gas wells as leachate monitoring points. The gas wells GS-07 and GS-08 were identified as suitable leachate monitoring points.

3.4.2 Leachate Quality

Leachate samples were collected from GS-07 and GS-08 in 2016. The results are not indicative of either the presence of a typical landfill leachate, or significant leachate contamination at these locations. Both locations are within the waste body but are located at the upgradient side and are close to the interface between the waste body and natural ground. The leachate results are summarised in Appendix 1.

3.5 Landfill Gas

Monitoring was carried out in accordance with Schedule C of the Waste Licence. The monitoring locations specified in the Licence include seven landfill gas wells (GS-05, GS-07, GS-08, GS-09, GS-10 and GS-11), the groundwater monitoring wells (BH-2, BH-5, BH-6 and BH-7) and the leachate boreholes (L-01, L-02 and L-03).

GS-01, GS-05, BH-2, BH-5, BH-6 and BH-7 are located outside the fill area. GS-07, GS-08, GS-09, GS-10, GS-11, L-01, L-02 and L-03 are located in the fill area. The nearest buildings to the filled area are the waste processing buildings and the site offices. OCM conducted gas monitoring in the waste processing buildings and the site offices during all monitoring events and the results are included in Appendix 1. The monitoring did not detect the presence of carbon dioxide or methane in any of the buildings.

Out of one hundred and forty landfill gas measurements made during the reporting period, methane was detected on four (4 No.) occasions in wells located in the fill area. The highest level detected was 4.1% in GS-10 in January 2016. Methane was not detected in any of the wells outside the waste body. Methane trend data is presented in Figure 3.2. Carbon Dioxide was measured at levels above the trigger level (1.5% v/v) on twenty-one (21 No.) occasions in wells outside the waste body. The highest level detected was 3.2% at GS-01 in July 2016.

The exceedances of the carbon dioxide trigger levels have neither been immediately reported nor treated as incidents issued as the levels are not unexpected i.e. they are not the result of incidents. Instead, to the Agency's satisfaction and agreement, results have been discussed in each quarterly report submitted for the installation.

3.5.1 Landfill Gas Volumes

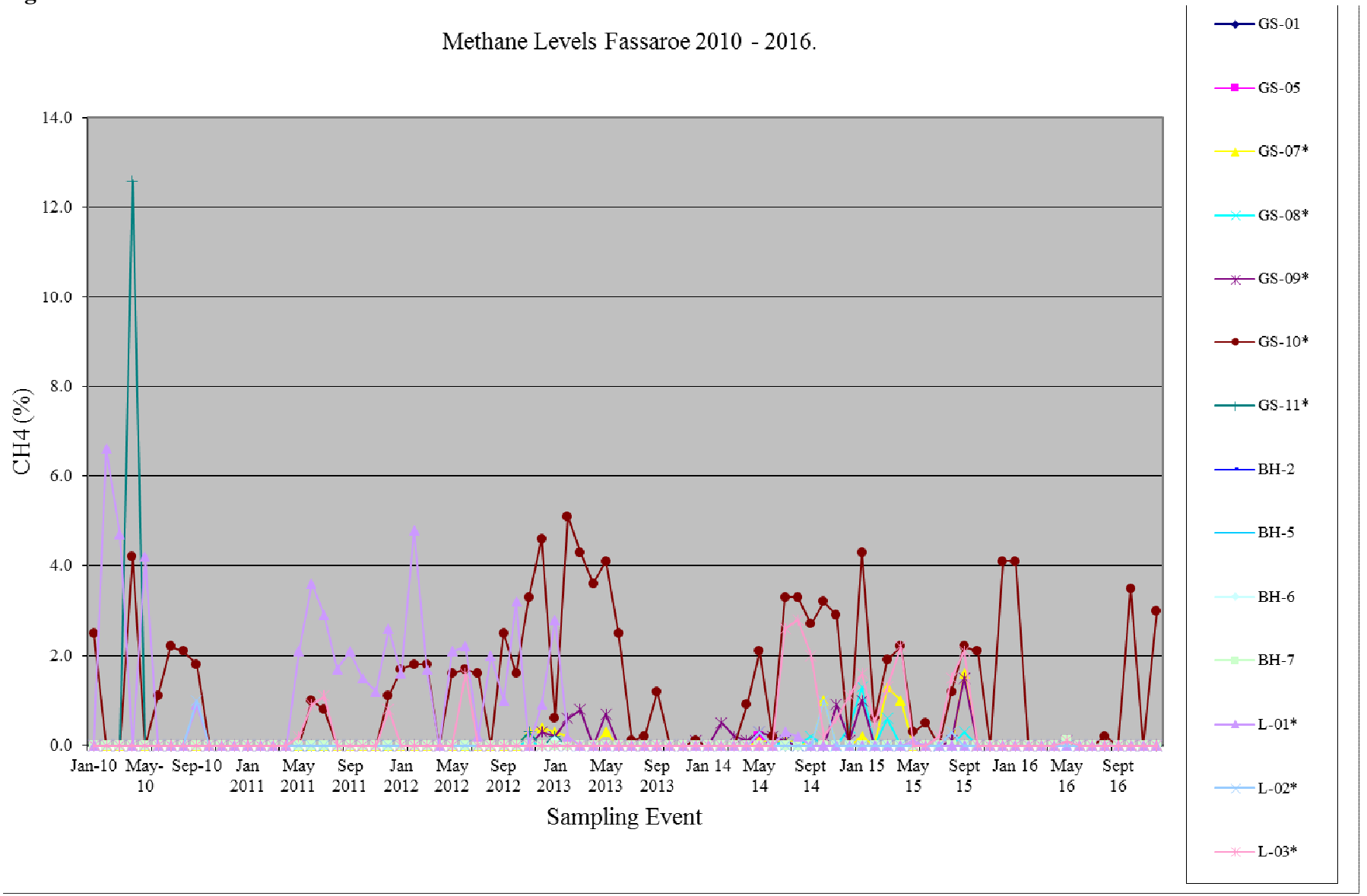
The occasional elevated carbon dioxide concentrations and the occasional presence of methane indicate that some degree of degradation of organic waste is occurring within the fill area. Based on the available information on the site history it appears that some biodegradable material may historically have been deposited at the site. The monitoring results do not indicate that landfill gas is migrating from the former fill area.

Given that the type and quantity of the biodegradable waste deposited on-site is not known, it is impossible to predict the volumes of landfill gas that may be generated. However, the monitoring results indicate that the volume of such degradable material is likely to be small and will reduce over time.

3.5.2 Landfill Gas Control

The design of the recently constructed structures at the site, specifically the Phase 2 processing building and the new administration building, incorporate sub-surface landfill gas protection measures and recent landfill gas monitoring in buildings around the site have not detected methane or elevated levels of carbon dioxide. There is no landfill gas control system on-site. The landfill gas concentrations measured in the routine monitoring programme indicate there is no need for such control measures. However, this will be kept under review based on the results of the on-going landfill gas monitoring programme.

Figure 3.2 Methane Levels 2010-2016.



3.6 Noise Survey

The annual noise survey was carried out in accordance with International Standard ISO 1996-2 Acoustics – Description, measurement and assessment of environmental noise, Part 2: Determination of environmental noise levels (2007) and EPA document NG4 Guidance note for noise: Licence applications, surveys and assessments in relation to scheduled activities (2012). The survey measured daytime and night-time noise levels at four boundary stations (N1-N4) and two offsite stations (NSL1 and NSL2). The installation was found to be in compliance with the licence conditions.

Daytime $L_{Aeq\ 30\ min}$ levels at the onsite stations N1-N4 were 42-61 dB. Site noise sources were audible to varying degrees at each monitoring location. Night-time $L_{Aeq\ 30\ min}$ levels measured 33-43 dB, with site activities audible at three stations. The 55 dB daytime and 45 dB night-time limits specified in the licence do not apply to these stations.

$L_{Aeq\ 30\ min}$ levels recorded at the noise sensitive locations NSL1 and NSL2 were 38-53 dB and 53-63 dB respectively during the daytime. Offsite noise sources, particularly road traffic, affected both, with site emissions almost completely masked by extraneous sources at NSL2. Night-time operations, when present, were slightly audible at NSL1. Operations were not audible at NSL2. It follows that night-time emissions were less than the 45 dB night-time limit. SEHL operations did not give rise to tones or impulses at any station during the daytime or night-time.

3.7 Dust Monitoring

Dust monitoring is carried out monthly at four monitoring locations, DS-01, DS-02, DS-03 and DS-04. DS-01 is located at the northern portion of the installation within the site boundaries and approximately 250 m from the nearest sensitive receptor. DS-02 is located away from operational areas, close to a formerly vegetated area along the northern boundary. This location is at the edge of the car park for the administration building.

DS-03 is located within the site boundary close to the car park and to the east of the site weighbridges. DS-04 is located on the southern boundary of the installation at the top of an embankment. The levels measured at DS-01 in August exceeded the deposition limit and this was due to the presence of soil from a nearby berm in the dust gauge. All other measurements were below the limit (the limit is 350mg/m^2/day).

4. SITE DEVELOPMENT WORKS

4.1 Specified Engineering Works

No specified engineering works were carried out in 2016.

4.2 Site Restoration

No site restoration works were carried out in 2016.

4.3 Site Development

No site development was carried out in 2016.

4.4 Summary of Resource & Energy Consumption

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

Table 4.1 Estimates of Resources Used On-Site 2016

Resources	2015	2016
Diesel	198,304 litres	188,863 litres
Hydraulic, Transmission and Engine Oil	7,848 Hydraulic 10,906 Engine Oil	8,215 Hydraulic 3,153 Engine Oil
Gear Oil	70 litres	120 litres
Electricity	1,589,793 kWh	1,627,640 kWh
Gas	59,549 kWh	52,716 kWh

5. WASTE RECEIVED AND CONSIGNED FROM THE INSTALLATION

Table 5.1 shows the quantities of wastes accepted and consigned for the reporting period. A more detailed description of the wastes received and consigned in 2016 is presented in the PRTR submission in Appendix 2.

The total quantity of waste received was 191,890 tonnes and the total amount consigned was 191,733 tonnes. The waste received and consigned in 2016 and 2015 are presented in Tables 5.1 and 5.2. For comparative purposes the amounts of waste received and consigned from 2006 to 2015 are presented in Table 5.3. As per Condition 11.12 of the Licence all the wastes consigned from the site went to authorised recovery and disposal facilities and a copy of the relevant Facility Permit or Waste Licences retained on site for Agency inspection.

More waste was accepted at the installation than consigned. This waste will be consigned in Q1 2017.

Table 5.1 Waste Received and Consigned 2016

EWC	Description	Waste In	Waste Out
13 02 08	Waste Oil		2.26
15 01 01	Cardboard Packaging	3054.727	5383.94
15 01 02	Plastic Packaging	154.017	4593.69
15 01 03	Wooden Packaging	93.765	44.18
15 01 04	Metal Packaging	12.524	44.56
15 01 06	Mixed Packaging	9759.56	171.52
15 01 07	Glass Packaging	3.585	
15 02 03	Protective Clothing	1.92	
16 02 14	Cables	1.89	
16 05 04	Gas Cylinders		0.8
17 01 01	C&D Inert Mixed	24.6	
17 02 03	Plastic		2.3
17 04 01	Copper	0.3	
17 04 05	Steel	0.12	
17 05 04	Soil & Stones	5884.94	
17 09 04	C&D Inert Mixed	1637.41	420.72
19 01 19	Sand	13.08	
19 05 01	MSW Fines	23.84	148.72
19 05 03	Compost	8466.006	8008.77
19 05 99	MSW Fines	176.36	495.7
19 08 01	LDF Screening	74	74
19 08 02	Grit	4.72	4.72
19 08 99	BioPlant Solids	6.96	
19 09 99	Sand	12.84	
19 12 07	Wood	423.793	32531.76
19 12 09	C&D Inert Mixed	1039.55	8884.56
19 12 10	Solid Recovered Fuel (SRF)	8.56	25888.78
19 12 12	C&I Dry Mixed	10957.475	43335.52
20 01 01	Cardboard & Paper	851.897	7932.52
20 01 02	Glass	9.02	
20 01 08	Biodegradable Waste	3193.95	2793.32
20 01 11	Textile	85.75	
20 01 38	Wood	27895.72	388.16
20 01 39	Plastic	40.816	14.62
20 01 40	Metal	130.226	3569
20 02 01	Green Biodegradable Waste	973.66	1455.32
20 03 01	MSW Municipal Mixed	43626.22	36510.25
20 03 03	LDF Street Cleaning	4634.6	4766.23
20 03 07	C&I Dry Mixed	68611.803	4267.21
	Total Received	**191,890.204**	
	Total Consigned		**191,733.13**
	Total Disposed		**93,747.94**
	Total Recovered		**97,985.19**
	Recovery Rate (%)		**51.11%**

Table 5.2 Waste Received & Consigned 2015

EWC	Description	Waste In	Waste Out
100211	Oil Filters	-	0.16
130208	Waste Oil		1.00
150101	Cardboard Packaging	2,806.90	7,196.02
150102	Plastic Packaging	156.35	6,622.95
150103	Wooden Packaging	51.52	7.28
150104	Metal Packaging	14.32	158.26
150105	Composite Packaging	2.30	
150106	Mixed Packaging	26,961.04	20.74
150107	Glass Packaging	17.31	
150109	Textile Packaging	1.27	
150203	Protective Clothing	2.29	
160504	Gas Cylinders		0.88
170203	Plastic	20.88	56.43
170302	Bitmac	19.50	19.40
170402	Aluminium Tubes	0.85	17.18
170504	Soil & Stones	184.88	
170904	C&D Inert Mixed	1,481.76	
190802	Grit	8.14	
190902	LDF Filter Cake	222.52	177.14
191204	Rubber	6.76	
191207	Wood	80.41	4,888.30
191209	C&D Inert Mixed	2,341.89	18,546.24
191210	Solid Recovered Fuel (SRF)	0.36	13,255.25
191212	C&I Dry Mixed	9,139.02	60,738.93
200101	Cardboard & Paper	3,353.67	16,594.89
200102	Glass	3.56	
200108	Biodegradable Kitchen & Canteen Waste	2,695.07	2,216.86
200111	Textile	81.74	
200135	REC Electronics & Electrics	0.20	12.00
200138	Wood	3,011.09	4,451.00
200139	Plastic	24.67	8.82
200140	Metal	133.07	2,908.64
200201	Green Biodegradable Waste	1,211.19	1,751.54
200301	MSW Municipal Mixed	27,085.86	11,181.52
200303	LDF Street Cleaning	4,725.82	4,069.31
200307	C&I Dry Mixed	68,965.08	2,775.90
		6.54	
	Total Received	154,817.81	
	Total Consigned		157,676.64
	Total Disposed		70,116.09
	Total Recovered		87,560.55
	Recovery Rate (%)		55.53%

Table 5.3 Total Tonnages Received, Consigned & Recovered in 2005-2015

Year	Total Received	Total Consigned	Total Recovered	Recovery Rate
2015	154,817.81	157,676.64	87,560.55	55.53%
2014	145,839.48	149,768.21	82,294.88	54.95%
2013	92,433.67	91,018.94	54,706.51	66.10%
2012	121,367.30	125,661.87	84,454.83	67.02%
2011	138,048.00	155,995	92,492.16	67%
2010	142,365.00	143,248.24	64,494.98	45.02%
2009	135,386.12	122,331.95	61,297.98	50.10%
2008	152,695.89	138,814.22	10,828.00	54.34%
2007	192,679.93	198,371.37	39,186.00	54.90%
2006	170,600.44	119,836.93	80,328.43	72%
2005	178,735.42	110,077.96	60,504	50%

6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

6.1 Incidents

The routine monitoring programme identified thirteen incidences where the trigger level for carbon dioxide was exceeded as described in Section 3. Landfill gas concentrations are monitored on a monthly basis at the installation. Historically the exceedances of the carbon dioxide trigger levels have neither been immediately reported nor treated as incidents issued as the levels are not unexpected i.e. they are not the result of incidents. Instead, to the Agency's satisfaction and agreement, results have been discussed in each quarterly report submitted for the installation. A summary of the gas monitoring data is presented in Appendix 1.

There were four waste water incidents in 2016. There were exceedances of the ELV for BOD in January, February, April and June 2016. The ELV for TSS was also exceeded in February, while the ELV for COD was exceeded in the June monitoring event. An investigation in June 2016 into these exceedances identified a problem with the pump, which was only functioning intermittently. This has now been repaired and there has been a visible improvement in the quality of the effluent in the lagoon. SEHL has put a procedure in place for the regular inspection and preventative maintenance of the pump. A summary of the waste water data is presented in Appendix 1.

6.2 Register of Complaints

SEHL maintains a register of complaints received in accordance with Condition 11.7 of the waste licence. Complaints regarding dust, noise, odour and windblown litter were received from various neighbours during 2016. Details of each communication were documented in the Communications database on site. Each complaint was followed up, remedial actions taken and lines of communication kept open with the site neighbours at all times. No complaints were made to the Agency.

7. ENVIRONMENTAL DEVELOPMENT & CONTROL

7.1 Environmental Management Programme Report

SEHL 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 the requirements of the Waste Licence Conditions. SEHL has prepared and effectively implement documented procedures and instructions in accordance with the requirements of both the OHSAS 18001:2007 and ISO 14001:2004 and the site has been certified to these standards since 2010. The site underwent a successful external audit in January 2017.

As part of this IMS, SEHL has developed a list of environmental, management, operating and maintenance procedures, details of which are outlined in Appendix 3. The schedule of Objectives and Targets, including their status for 2016 (Table 7.1), as well as the proposed Objectives and Targets for 2017 (Table 7.2) are presented below.

7.1.1 Site Management Structure

Details of the site management structure are given below.

Jan – Sept 2016

Name: John Richardson **Title:** Site Operations Manager

Training & Experience: Diploma in Mechanical Engineering. Has completed FAS Waste Management Course. 18 years industrial experience, all in the waste industry.

Responsibilities: Daily responsibility and accountability for all aspects of SEHL's processing divisions in Bray. Managing the waste flow process. Implementing ISO systems including environmental and H&S procedures and also meeting all KPIs.

Sept – Dec 2016

Name: Kieran Conor **Title:** Group Operations Manager

Training & Experience: Has completed FAS Waste Management Course equivalent. 20 years experience in the waste industry.

Responsibilities: Operational responsibility for all processing sites.

Name: Armando Almansa **Title:** Facility Supervisor

Training & Experience: Has completed the FAS Waste Management Course equivalent. 15 experience in waste industry.

Responsibilities: Daily responsibility for environmental compliance in SEHL Bray.

7.1.2 Staff Training

Job specific equipment training, first aid and manual handling training was carried out in 2016.

7.2 Environmental Management Programme Proposal

7.2.1 Schedule of Objectives 2016

The objectives that were achieved during this reporting period are outlined in Table 7.1.

7.2.2 Schedule of Objectives 2017

The schedule of targets and objectives for 2017 are presented in Table 7.2.

Table 7.1 Schedule of Objective and Targets 2016

No.	Objective	Target	Timescale	Responsibility	Status
1	**Increase awareness of Odour Management on site**	Specify Odour detection in Site Inspection Database (EF-10A) on a daily basis and generate actions as appropriate	Q1-Q2	Site Management/ EHS	Completed
2	**Waste storage practices**	Review waste storage practices on each site to ensure that they are in line with licence conditions, fire prevention and insurance recommendations	Q2	Site Management/ EHS	Ongoing
3	**Emergency response procedures - ER pack update**	Review the Emergency Response Pack on each site and ensure that all information & equipment required in case of an emergency is available. Confirm that relevant staff training adequately addresses.	Q2	Site Management/ EHS	Completed
4	**CRAMP, ELRA & Financial Provision**	CRAMP, ELRA & Financial Provision to be reviewed	Q2/Q3	EHS team	Q1 2017
5	**Waste acceptance, classification & records**	EWC training for all weighbridge ops. Centralisation of all licences & permits inc NWCPs for hauliers.	Q2/Q3	EHS team	Ongoing
6	**Pipeline integrity & bund testing**	Arrange for integrity testing of pipelines and bunds as per licence requirements.	Q2/Q3	Site Management/ EHS	Completed
7	**Energy Audit**	Completed energy audit as per amended licence conditions	Q4	Site Management/ EHS	Completed
8	**Containment measures to combat windblown litter**	Investigate measures to contain windblown litter on site.	Q1/Q2	Site Management/ EHS	Ongoing

Table 7.2 Schedule of Objective and Targets 2017

No.	Objective	Target	Timescale	Responsibility
1	**Odour management**	Ensure odour management plans are followed and potential new sources of odour are identified	Q1 - Q4	Site management
2	**Fire prevention**	Implement recs from Fire Risk Assessments Update ERP & APP Maintain fire detection equipment	Q1 - Q4	Site management/EHS team
3	**Waste storage**	Review waste storage practices on each site to ensure that they are inline with licence conditions, fire prevention and insurance recommendations	Q1 - Q4	Site management/EHS team
4	**Waste acceptance, classification & records**	EWC training for all weighbridge ops. Centralisation of all licences & permits inc NWCPs for hauliers.	Q1 - Q4	EHS team
5	**CRAMP, ELRA & Financial Provision**	CRAMP, ELRA & Financial Provision to be reviewed	Q2	EHS team
6	**Lighting in MRF buildings**	Clean & upgrade where required all light fittings in MRF buildings	Q3	Site management
7	**NWCP exemptions**	Implement NWCP exemption declarations	Q1 - Q4	Site management
8	**Fire risk assessment**	Implement FRA recommendations	Q2	Site management/EHS team
9	**Storm water trigger levels**	Set SW trigger levels	Q2	EHS team
10	**Public complaints log**	Reformat complaints log to ensure that it is publically accessible.	Q1	EHS team
11	**Review litter netting**	Assess litter netting surrounding the site	Q2	EHS team
12	**Noise reduction plan**	Formulate noise reduction plan	Q2	EHS team
13	**Odour management plan**	Formulate odour management plan	Q2	EHS team
14	**Dust management plan**	Formulate dust management plan	Q2	EHS team

7.3 Reduction of Water Demand

SEHL upgraded the surface water drainage system as agreed with the Agency in March 2012. The works included the installation of an attenuation tank to collect the roof water from the processing building and this is reused for dust suppression on site.

7.4 Volume of Wastewater Produced and Transported off site

The total amount of wastewater produced during the reporting period was 18,188 m^3 which was discharged to the municipal sewer.

7.5 Pollution Emission Register

The Pollution Emission Register (PER) has been replaced by the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006. A copy of the information submitted to the Agency via the web-based data reporting system is included in Appendix 2.

7.6 Nuisance Controls

SEHL has contracted a vermin control company Eastern Pest Control to carry out nuisance control at the installation. Eastern Pest Control undertake a six weekly review of the vermin activity on-site along with an inspection of the bait traps that are located throughout the installation.

7.7 Tank & Pipeline Testing

Bund testing was carried out in 2013 and was confirmed to be fit for purpose. The bund report was submitted via Alder. Pipeline integrity testing of the foul and surface water networks was carried out in May 2016 by McBreen Environmental and the pipelines found to be watertight. Written records of this inspection are maintained on site.

7.8 Slope Stability Assessment

An assessment of the stability of the slopes was carried out in compliance with Condition 6.10 of the licence in April 2008 and was reported to the Agency as part of the 2008 AER. No further site restoration work was carried out and therefore it was not necessary to carry out a further stability assessment.

7.9 Programme for Public Information

SEHL is committed to setting the standard in waste management and ensuring environmental compliance in all operations. In addition, SEHL's Environmental, Health & Safety Policy makes a specific commitment to make the policy and records available to the public and interested parties. To this end SEHL has drawn up a Communications Programme, which details how members of the public are facilitated in accessing environmental information at the installation. Records available for public inspection on site include:-

- Environmental, Health & Safety Policy,
- Waste Licence,
- Licence Application and Review documentation,
- Monitoring Records,
- Complaints File,
- EPA Correspondence File.

Visits to the site should be arranged in advance by ringing the Facility Manager or Supervisor at 1890 500 800.

7.10 ELRA & Report on Financial Provision

A Decommissioning Management Plan (DMP) and Environmental Liabilities Risk Assessment (ELRA) including Financial Provision (FP) were submitted to the Agency in 2013 as part of the transfer of the licence which occurred in Q1 2014. Both the DMP and ELRA have been approved by the Agency.

7.11 Waste Recovery Report

The installation, which is designed to increase the recycling of biodegradable materials and reduce the volume of waste disposed to landfill, meets the needs identified in EU and national waste policy statements and contributed to the achievement of these goals as out of approximately 191,890 tonnes of waste accepted approximately 51% was sent for recovery.

7.12 Revised Closure, Restoration & Aftercare Management Plan

A revised CRAMP and ELRA was approved by the Agency in Feb 2014 during the licence transfer to Starrus Eco Holdings Ltd.

8. OTHER REPORTS

8.1 European Pollutant Release and Transfer Register Regulation

Under the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006 SEHL are required to submit information annually to the Agency. A copy of the return submitted to the Agency via the web-based data reporting system is included in Appendix 2.

APPENDIX 1

Environmental Monitoring Summary Tables

GROUNDWATER SUMMARY TABLES

Groundwater Results 2016 Fassaroe W0053-03: BH-2

Parameter	Units	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016
Temperature	°C	8.7	11.2	12.7	10
Chloride	mg/l	24.8	26.3	32.7	34.4
Ammoniacal Nitrogen -N	mg/l	0.04	<0.03	0.08	<0.03
Conductivity	mS/cm	2.534	0.751	1.782	2.077
Dissolved Oxygen	mg/l	12	5	5	7
pH	pH Units	7.58	7.02	7.42	7.25
Nitrate	mg/l			24.2	
Boron	mg/l			0.411	
Calcium	mg/l			382.2	
Potassium	mg/l			21	
Sodium	mg/l			38.6	
Magnesium	mg/l			31.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			623.4	
Mercury	mg/l			<0.001	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			<20	
Manganese	µg/l			<2	
Lead	µg/l			<5	
Nickel	µg/l			11	
Zinc	µg/l			6	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			2920	
Faecal Coliforms	cfu/100ml			91	

Groundwater Results 2016 Fassaroe W0053-03: BH-5

Parameter	Units	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016
Temperature	°C	10.3	14.1	12.9	10.2
Chloride	mg/l	31.4	35.3	27.7	38.2
Ammoniacal Nitrogen -N	mg/l	<0.03	<0.03	0.06	<0.03
Conductivity	mS/cm	1.382	1.488	0.708	1.537
Dissolved Oxygen	mg/l	9	7	2	8
pH	pH Units	7.59	7.1	7.05	7.13
Nitrate	mg/l			2.2	
Boron	mg/l			0.034	
Calcium	mg/l			131.3	
Potassium	mg/l			3.9	
Sodium	mg/l			19.7	
Magnesium	mg/l			11.2	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			56.3	
Mercury	mg/l			<1	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			117	
Manganese	µg/l			260	
Lead	µg/l			<5	
Nickel	µg/l			<2	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			43520	
Faecal Coliforms	cfu/100ml			1600	

Groundwater Results 2016 Fassaroe W0053-03: BH-7

Parameter	Units	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016
Temperature	°C	10.9	11.4	12.9	9.7
Chloride	mg/l	31.4	28.6	27.7	27.2
Ammoniacal Nitrogen -N	mg/l	<0.03	0.03	0.06	0.77
Conductivity	mS/cm	1.382	1.87	0.708	0.709
Dissolved Oxygen	mg/l	9	7	2	4
pH	pH Units	7.59	7.51	7.05	7.09
Nitrate	mg/l			2.2	
Boron	mg/l			0.034	
Calcium	mg/l			131.3	
Potassium	mg/l			3.9	
Sodium	mg/l			19.7	
Magnesium	mg/l			11.2	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			56.3	
Mercury	mg/l			<1	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			117	
Manganese	µg/l			260	
Lead	µg/l			<5	
Nickel	µg/l			<2	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			43520	
Faecal Coliforms	cfu/100ml			1600	

SURFACE WATER SUMMARY TABLES

Surfacewater Results 2016 Fassaroe W0053-03: SW-1

Parameter	Units	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016
Temperature	°C	7.3	11.9	13.1	6.7
Chloride	mg/l	23.8	26.9	28	32.8
COD	mg/l	18	<7	<7	11
BOD	mg/l	<1	2	<1	<1
Ammoniacal Nitrogen -N	mg/l	0.12	0.05	<0.03	<0.03
Tot. Susp. Solids	mg/l	118	<10	<10	<10
Conductivity	mS/cm	0.426	0.551	0.607	0.575
Dissolved Oxygen	mg/l	10	3	9	10
pH	pH Units	7.65	7.69	8.01	8.12
Nitrate	mg/l			17	
Calcium	mg/l			105.3	
Magnesium	mg/l			9.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			21.8	
Mercury	µg/l			<1	
Potassium	mg/l			1.8	
Sodium	mg/l			17.2	
Boron	mg/l			0.016	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			26	
Manganese	µg/l			16	
Nickel	µg/l			<2	
Lead	µg/l			<5	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			2,130	
Faecal Coliforms	cfu/100ml			840	
- Not Required					

Surfacewater Results 2016 Fassaroe W0053-03: SW-2					
Parameter	**Units**	**1st Quarter 2016**	**2nd Quarter 2016**	**3rd Quarter 2016**	**4th Quarter 2016**
Temperature	°C	7.2	11.5	12.9	6.8
Chloride	mg/l	23.2	27	27.7	34.1
COD	mg/l	17	<7	<7	18
BOD	mg/l	<1	2	<1	<1
Ammoniacal Nitrogen -N	mg/l	0.12	<0.03	<0.03	<0.03
Tot. Susp. Solids	mg/l	135	<10	<10	<10
Conductivity	mS/cm	0.433	0.557	0.579	0.6
Dissolved Oxygen	mg/l	10	6	9	10
pH	pH Units	7.99	7.82	8.04	8.13
Nitrate	mg/l			18.2	
Calcium	mg/l			103.8	
Magnesium	mg/l			9.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			22.8	
Mercury	µg/l			<1	
Potassium	mg/l			1.8	
Sodium	mg/l			17	
Boron	mg/l			0.017	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			<20	
Manganese	µg/l			11	
Nickel	µg/l			<2	
Lead	µg/l			<5	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			2,380	
Faecal Coliforms	cfu/100ml			540	
- Not Required					

Surfacewater Results 2016 Fassaroe W0053-03: SW-3					
Parameter	**Units**	**1st Quarter 2016**	**2nd Quarter 2016**	**3rd Quarter 2016**	**4th Quarter 2016**
Temperature	°C	7	12	13.1	6.6
Chloride	mg/l	14.1	27.2	28	34.7
COD	mg/l	23	10	<7	<7
BOD	mg/l	2	2	<1	1
Ammoniacal Nitrogen -N	mg/l	0.12	0.03	<0.03	<0.03
Tot. Susp. Solids	mg/l	112	10	<10	<10
Conductivity	mS/cm	0.424	0.55	0.57	0.612
Dissolved Oxygen	mg/l	10	9	9	10
pH	pH Units	8.07	7.82	8.05	8.16
Nitrate	mg/l			18.3	
Calcium	mg/l			102.5	
Magnesium	mg/l			9.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			22.8	
Mercury	µg/l			<1	
Potassium	mg/l			1.8	
Sodium	mg/l			16.9	
Boron	mg/l			0.016	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			<20	
Manganese	µg/l			11	
Nickel	µg/l			<2	
Lead	µg/l			<5	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			2,880	
Faecal Coliforms	cfu/100ml			740	
- Not Required					

Surfacewater Results 2016 Fassaroe W0053-03: SW-4					
Parameter	**Units**	**1st Quarter 2016**	**2nd Quarter 2016**	**3rd Quarter 2016**	**4th Quarter 2016**
Temperature	°C	7.1	12.3	13.1	6.6
Chloride	mg/l	23.1	27.2	28.2	34.1
COD	mg/l	11	<7	8	9
BOD	mg/l	1	2	<1	1
Ammoniacal Nitrogen -N	mg/l	0.12	0.03	<0.03	<0.03
Tot. Susp. Solids	mg/l	115	<10	<10	<10
Conductivity	mS/cm	0.43	0.558	0.573	0.603
Dissolved Oxygen	mg/l	10	12	9	10
pH	pH Units	8.04	7.77	8.07	8.16
Nitrate	mg/l			18.6	
Calcium	mg/l			104.1	
Magnesium	mg/l			9.8	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			22.9	
Mercury	µg/l			<1	
Potassium	mg/l			1.8	
Sodium	mg/l			17.1	
Boron	mg/l			0.018	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			29	
Manganese	µg/l			11	
Nickel	µg/l			<2	
Lead	µg/l			<5	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			ND	
Total Coliforms	cfu/100ml			3,230	
Faecal Coliforms	cfu/100ml			580	

- Not Required

Surfacewater Results 2016 Fassaroe W0053-03: SW-5

Parameter	Units	1st Quarter 2016	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016
Temperature	°C	8	11.9	Dry	8.2
Chloride	mg/l	23.4	42.4	Dry	19
COD	mg/l	13	104	Dry	13
BOD	mg/l	2	19	Dry	3
Ammoniacal Nitrogen -N	mg/l	0.03	13.48	Dry	0.77
Tot. Susp. Solids	mg/l	47	62	Dry	<10
Conductivity	mS/cm	0.519	0.858	Dry	0.458
Dissolved Oxygen	mg/l	10	15	Dry	9
pH	pH Units	7.94	7.04	Dry	7.77
Nitrate	mg/l			Dry	
Calcium	mg/l			Dry	
Magnesium	mg/l			Dry	
Orthophosphate	mg/l			Dry	
Sulphate	mg/l			Dry	
Mercury	µg/l			Dry	
Potassium	mg/l			Dry	
Sodium	mg/l			Dry	
Boron	µg/l			Dry	
Cadmium	µg/l			Dry	
Chromium	mg/l			Dry	
Copper	µg/l			Dry	
Iron	µg/l			Dry	
Manganese	µg/l			Dry	
Nickel	µg/l			Dry	
Lead	µg/l			Dry	
Zinc	µg/l			Dry	
VOC	µg/l			Dry	
SVOC	µg/l			Dry	
Pesticides	µg/l			Dry	
Total Coliforms	cfu/100ml			Dry	
Faecal Coliforms	cfu/100ml			Dry	

- Not Required

WASTEWATER SUMMARY TABLES

Wastewater Results 2016 Fassaroe W0053-03: SE-1

Parameter	units	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
pH	pH Units	6.58	6.79	7.47	7.02	DRY	6.5	6.75	7.98	6.95	7.17	7.06	7.61
Temperature	°C	6.5	7	7.1	17	DRY	15.1	18.9	18.4	15.2	6.8	7	-
BOD	mg/l	245	274	59	3,577	DRY	4,858	32	47	49	178	79	63
COD	mg/l	N/A	507	N/A	NA	DRY	7,230	145	482	N/A	N/A	223	N/A
Sulphate	mg/l	N/A	227.46	N/A	NA	DRY	NA	NA	348.5	NA	N/A	337.7	N/A
TSS	mg/l	N/A	213	102	NA	DRY	NA	32	104	NA	N/A	204	N/A
Surfactants	mg/l	N/A	0.7	N/A	NA	DRY	NA	NA	3.3	NA	N/A	1.2	N/A
Oils, Fats & Greases	mg/l	N/A	1.62	N/A	NA	DRY	NA	NA	0.25	NA	N/A	1.15	N/A
Mineral Oil	mg/l	N/A	1.62	N/A	NA	DRY	NA	NA	0.25	NA	N/A	1.15	N/A

N/A - Not Applicable

LANDFILL GAS SUMMARY TABLES

Landfill Gas Results 2016 Fassaroe W0053-03

Sample Station Number	Jan CH_4 (% v/v)	Feb CH_4 (% v/v)	Mar CH_4 (% v/v)	Apr CH_4 (% v/v)	May CH_4 (% v/v)	Jun CH_4 (% v/v)	Jul CH_4 (% v/v)	Aug CH_4 (% v/v)	Sep CH_4 (% v/v)	Oct CH_4 (% v/v)	Nov CH_4 (% v/v)	Dec CH_4 (% v/v)	Trigger Level CH_4 (% v/v)
GS-01	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
GS-05	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
GS-07*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
GS-08*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
GS-09*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
GS-10*	4.1	0.0	**	**	0.1	**	**	0.2	0.0	3.5	0.0	3.0	1.0
GS-11*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
BH-2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
BH-5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
BH-6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
BH-7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
L-01*	**	**	**	***	**	***	***	**	**	**	**	**	1.0
L-02*	0.0	0.0	***	**	**	***	***	**	**	**	**	**	1.0
L-03*	0.0	0.0	0.0	0.0	0.1	0.0	***	***	***	***	***	***	1.0

** - well damaged *** - well inaccessible

Landfill Gas Results 2016 Fassaroe W0053-03

Sample Station Number	Jan CO_2 (% v/v)	Feb CO_2 (% v/v)	Mar CO_2 (% v/v)	Apr CO_2 (% v/v)	May CO_2 (% v/v)	Jun CO_2 (% v/v)	Jul CO_2 (% v/v)	Aug CO_2 (% v/v)	Sep CO_2 (% v/v)	Oct CO_2 (% v/v)	Nov CO_2 (% v/v)	Dec CO_2 (% v/v)	Trigger Level (% v/v)
GS-01	2.2	3.1	3.2	2.6	0.3	2.4	3.2	0.9	0.7	0.0	0.6	1.4	1.5
GS-05	0.0	0.0	2.8	0.2	0.1	2.0	2.4	1.6	0.0	0.0	0.0	2.3	1.5
GS-07*	3.0	2.8	0.1	3.9	1.1	4.1	7.8	17.0	13.0	0.8	0.6	0.2	1.5
GS-08*	0.0	0.0	3.7	2.1	0.1	6.7	6.9	5.9	5.7	0.0	0.0	5.6	1.5
GS-09*	0.4	2.1	7.9	4.6	0.1	10.6	8.9	9.5	8.5	6.3	2.0	3.9	1.5
GS-10*	16.0	0.0	**	**	0.1	**	**	3.9	10.0	15.0	0.1	16.0	1.5
GS-11*	0.0	11.0	13.0	5.3	1.1	4.5	11.0	1.7	12.0	1.2	3.0	5.5	1.5
BH-2	0.0	0.7	0.0	0.0	0.1	2.0	0.1	0.0	0.2	0.0	0.1	0.0	1.5
BH-5	0.0	0.0	0.0	0.0	0.3	2.9	0.2	0.3	0.0	0.0	0.0	0.1	1.5
BH-6	1.2	0.3	2.1	1.6	0.1	2.3	2.2	0.3	2.2	0.0	0.2	1.3	1.5
BH-7	2.7	0.8	0.3	0.9	0.1	0.5	0.1	0.4	2.0	0.4	1.1	1.9	1.5
L-01*	**	**	**	***	**	***	***	**	**	**	**	**	1.5
L-02*	8.0	13.0	***	**	**	***	***	**	**	**	**	**	1.5
L-03*	0.0	0.0	3.0	0.0	0.1	0.2	**	***	***	***	***	***	1.5

** - well damaged *** - well inaccessible

Landfill Gas Results 2016 Fassaroe W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (% v/v)**	**O_2 (%v/v)**
GS-01	15.9	11.3	9.9	13.8	18.1	9.9	14.0	20.0	19.0	20.3	20.1	18.2
GS-05	21.5	21.3	19.0	20.9	18.8	19.0	17.6	19.5	20.1	20.4	20.7	18.5
GS-07*	9.9	16.1	0.1	14.2	17.7	15.0	11.4	6.6	6.3	20.1	20.6	20.9
GS-08*	21.1	20.9	3.7	16.4	18.7	16.1	12.6	15.1	14.2	20.8	20.9	15.8
GS-09*	20.1	17.9	7.9	14.7	18.6	5.1	7.5	10.6	7.5	13.2	19.9	16.2
GS-10*	0.6	20.9	**	**	18.6	**	**	14.7	5.2	0.0	20.5	0.0
GS-11*	21.3	5.7	13.0	12.3	17.5	14.5	6.1	18.7	6.7	19.4	18.8	15.7
BH-2	21.2	21.0	0.0	21.1	18.5	16.0	18.4	20.6	20.1	20.5	20.6	20.6
BH-5	21.4	21.3	0.0	21.0	18.3	13.6	20.6	20.2	20.4	20.5	20.7	20.2
BH-6	18.9	20.7	2.1	19.0	18.7	18.1	17.0	20.4	17.3	20.9	20.7	19.4
BH-7	16.9	20.9	0.3	19.3	18.3	21.1	18.6	20.3	18.1	19.7	19.6	17.2
L-01*	**	**	**	***	**	***	***	**	**	**	**	**
L-02*	7.3	13.0	***	**	**	***	***	**	**	**	**	**
L-03*	21.3	0.0	3.0	21.1	18.8	21.0	**	***	***	***	***	***

** - well damaged *** - well inaccessible

Landfill Gas Results 2016 Fassaroe W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**	**Barometric Pressure (mb)**
GS-01	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
GS-05	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
GS-07*	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
GS-08*	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
GS-09*	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
GS-10*	985	975	1001	**	1021	**	**	1016	1004	1026	1020	1020
GS-11*	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
BH-2	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
BH-5	985	975	1001	995	1021	1008	1005	1016	1004	126	1020	1020
BH-6	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
BH-7	985	975	1001	995	1021	1008	1005	1016	1004	1026	1020	1020
L-01*	**	**	**	***	**	**	***	**	**	**	**	**
L-02*	985	975	1001	**	**	**	***	**	**	**	**	**
L-03*	985	975	1001	995	1021	1008	**	***	***	***	***	***

** - well damaged *** - well inaccessible

DUST SUMMARY TABLES

Dust Results 2016 Fassaroe W0053-03

	DS-01	DS-02	DS-03	DS-04
Jan-16	*	35.46	37.87	11.89
Feb-16	*	*	37.2	44.32
Mar-16	*	44.32	37.2	*
Apr-16	*	272.77	37.59	10.55
May-16	*	317.03	65.13	15.93
Jun-16	*	35.23	162.02	22.95
Jul-16	317.65	203.09	125.95	22.55
Aug-16	1,707.12	235.29	35.74	22.95
Sep-16	235.8	11.61	8.86	2.02
Oct-16	123.59	20.48	40.51	5.44
Nov-16	59.19	11.95	30.46	27.38
Dec-16	118.77	11.78	18.06	12.74

* Sample jar contaminated with bird excrement

NOISE SUMMARY TABLES

Noise Results 2016 Fassaroe W0053-03

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N1	04.04.16	1007-1037	0	61	63	48	61
	Facility: Truck movements through entrance area dominant when present, and clearly audible for extended periods idling on weighbridge. During lulls, truck movements audible deeper in site. No processing emissions audible. Leq representative **Extraneous:** Local birdsong significant. During site truck lulls, M11 traffic to NE and traffic outside boundary audible, in addition to aircraft.						
N1	04.04.16	1246-1316	0	61	62	49	61
	Facility: As above. Loader reversing alarm audible at low level for a time in MSW building. **Extraneous:** As above.						
N1	04.04.16	1651-1721	0	60	61	48	60
	Facility: As previous, minus loader. Weighbridge traffic significantly less than earlier, allowing M11 and site noise to become more audible, latter consisting of continuous emissions from E façade of building (slightly audible) and grab activity outside NE corner of waste processing building (audible at low level). **Extraneous:** Local birdsong significant. During site truck lulls, M11 traffic to NE and traffic outside boundary audible, in addition to aircraft. M11 traffic more clearly audible than earlier.						
N1	04.04.16	2302-2332	0	44	44	40	38
	Facility: Continuous emissions audible from blue compressor at low level. Façade fans faintly audible DMR loader scraping floor intermittently slightly audible. Occasional car departures through site gate dominant when present. L90 not entirely representative of steady emissions due to partial contribution by M11 traffic. **Extraneous:** M11 traffic continuously audible at low level to NE. Occasional traffic through roundabout outside gate and on Thornhill Road clearly audible.						
N1	05.04.16	0127-0157	0	33	35	29	<<29
	Facility: No site emissions audible apart from faint hum from pole mounted electrical transformer. **Extraneous:** M11 traffic continuously audible at low level to NE. No other noise apart from aircraft and distant dog barking.						

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N2	04.04.16	1032-1102	0	55	56	47	55
	Facility: Occasional truck movements through entrance and weighbridge area dominant when present. No emissions from deeper within site audible apart from occasional truck movements. Several car movements on adjacent carpark access road. Loader audible on E side of yard during last 5 min. Leq representative. **Extraneous:** Local birdsong significant. M11 traffic continuously audible at low level to NE.						
N2	04.04.16	1317-1347	0	53	55	48	53
	Facility: As above, minus loader. During truck lulls, blue compressor on E façade and internal plant operations slightly audible. **Extraneous:** As above.						
N2	04.04.16	1621-1651	0	59	62	48	59
	Facility: Occasional truck movements through entrance and weighbridge area dominant when present. No emissions from deeper within site audible apart from occasional truck movements. Several car movements on adjacent carpark access road, moreso than earlier, with consequent increase in Leq. **Extraneous:** Reduced weighbridge activity allowing M11 traffic to become more audible. Local birdsong, and crow and gull calls significant. Thornhill Road traffic also audible during weighbridge lulls.						
N2	04.04.16	2332-0002	0	43	44	41	40
	Facility: Continuous emissions on E façade continuously audible at low level to 2355. Façade fans also slightly audible. DMR loader engine and bucket slightly audible also. Voices and carpark acitivity during last 2 min. **Extraneous:** M11 traffic continuously audible at low level. No other noise audible apart from several aircraft.						
N2	05.04.16	0157-0227	0	33	35	30	<<30
	Facility: No site emissions audible apart from faint hum from pole mounted electrical transformer. **Extraneous:** M11 traffic continuously audible at low level to NE, traffic volume decreasing. No other noise apart from aircraft and distant dog barking.						

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N3	04.04.16	1129-1159	x	48	50	45	44
	Facility: Continuous emissions audible at low level from fans and plant on E façade of waste processing building. Wood shredder emissions faintly discernible. Occasional truck movements audible on nearest yards and in weighbridge area. Several car movements in carpark area clearly audible. Leq not representative. **Extraneous:** M11 traffic continuously audible at low level to NE. Bird song/calls and aircraft.						
N3	04.04.16	1356-1426	0	46	49	42	47
	Facility: Mobile grab operating on yard near NE corner of waste processing building clearly audible continuously until 1408, masking all other site noise. From 1408, emissions audible as above. **Extraneous:** M11 traffic slightly audible continuously, partly masked by grab. Birdsong and aircraft.						
N3	04.04.16	1731-1801	x	48	50	44	46
	Facility: Mobile grab operating on E side of waste processing building audible at low level continuously until 1757, with loader. Latter idling at 40 Hz for some time. DMR façade emissions also audible at low level continuously. **Extraneous:** M11 traffic audible at low level continuously. Bird song/calls and aircraft. Water flow in valley slightly audible.						
N3	05.04.16	0008-0038	0	38	38	35	<35
	Facility: DMR loader bucket slightly audible. No other emissions, apart from carpark movements x 3. **Extraneous:** Water flow in valley dominant, almost entirely masking M11 traffic. No other noise audible apart from aircraft.						
N3	05.04.16	0235-0305	0	37	37	36	<<36
	Facility: No emissions. **Extraneous:** As previous.						

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N4	04.04.16	1127-1157	x	44	47	40	<40
	Facility: Continuous emissions audible at low level from wood shredder. No other site emissions audible. **Extraneous:** Birdsong in valley significant, in addition to continuously clearly audible water flow. Latter masking M11. Aircraft.						
N4	04.04.16	1352-1422	0	42	44	40	<40
	Facility: As above, although prior to 1408, shredder emissions replaced by slightly audible grab operations on yard at NE corner of waste processing building. **Extraneous:** As above.						
N4	04.04.16	1730-1800	x	45	47	41	<40
	Facility: No emissions audible **Extraneous:** As above.						
N4	05.04.16	0006-0036	0	39	40	39	<<39
	Facility: No emissions audible **Extraneous:** Water flow in valley dominant, masking all other sources.						
N4	05.04.16	0233-0303	0	38	39	38	<<38
	Facility: No emissions. **Extraneous:** As previous.						

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
NSL1	04.04.16	0959-1029	0	38	39	38	<<38
	Facility: Truck movements through entrance area dominant when present, and clearly audible for extended periods idling on weighbridge. During lulls, truck movements audible deeper in site. Leq representative **Extraneous:** Local birdsong significant. During site truck lulls, M11 traffic to NE and traffic outside boundary audible and aircraft.						
NSL1	04.04.16	1244-1314	0	53	54	49	53
	Facility: As above. Loader reversing alarm audible at low level for a time in MSW building. **Extraneous:** As above.						
NSL1	04.04.16	1654-1724	0	50	52	45	49
	Facility: As previous, minus loader. Weighbridge activity significantly less than earlier, allowing extraneous noise to become more audible. **Extraneous:** Local birdsong and crow calls significant. During site lulls, M11 traffic to NE and traffic outside boundary audible, and aircraft. M11 and Thornton Road traffic more clearly audible than earlier, with some contribution to Leq.						
NSL1	04.04.16	2300-2330	0	44	45	42	40
	Facility: Continuous emissions audible from blue compressor at low level. Façade fans faintly audible. DMR loader scraping floor intermittently slightly audible. Occasional car departures through site gate dominant when present. L90 not entirely representative of steady emissions due to partial contribution by M11 traffic. **Extraneous:** M11 traffic continuously audible at low level to NE. Occasional traffic through roundabout outside gate and on Thornhill Road clearly audible.						
NSL1	05.04.16	0125-0155	0	34	36	31	<<31
	Facility: No site emissions audible apart from faint hum from pole mounted electrical transformer. **Extraneous:** M11 traffic continuously audible at low level in background. Occasional passing traffic dominant when present. Bird song/calls and aircraft.						

Station	Date	Time	Wind Vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
NSL2	04.04.16	1207-1237	0	60	55	42	<42
	Facility: Emissions from E façade of waste processing building (fans & other sources) faintly discernible continuously. Almost entirely masked by M11 traffic **Extraneous:** M11 traffic continuously audible at low level in background. Occasional passing traffic dominant when present. Bird song/calls and aircraft.						
NSL2	04.04.16	1445-1515	0	53	54	49	53
	Facility: As above. **Extraneous:** As above, although Thornton Road noticeably busier. Crow calls significant.						
NSL2	04.04.16	1808-1838	+	63	63	43	<<43
	Facility: No emissions audible **Extraneous:** As above. Water flow in valley now slightly audible. Dog barking audible in distance. Talking pedestrians						
NSL2	05.04.16	0044-0114	0	43	39	33	<<33
	Facility: No emissions. **Extraneous:** M11 traffic continuously audible at low level to NE. Aircraft and distant dog barking, and sporadic traffic through roundabout audible. Passing car x1.						
NSL2	05.04.16	0311-0341	0	33	35	30	<<30
	Facility: No emissions. **Extraneous:** As above, although M11 traffic reduced. No local traffic.						

LEACHATE SUMMARY TABLES

Leachate Level Results 2016 Fassaroe W0053-03

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
L-01	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
L-02	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
L-03	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
GS-07	7.69	7.60	7.56	7.71	7.87	7.54	7.56	7.56	7.55	7.56	7.56	7.56
GS-08	9.86	9.57	9.51	9.24	9.16	9.15	9.16	9.3	9.16	9.17	9.16	9.16

Leachate Analysis Q-1 2016

Parameters	Units	GS-07	GS-08
BOD	mg/l	5	3
COD	mg/l	32	48

Leachate Analysis Q-2 2016

Parameters	Units	GS-07	GS-08
BOD	mg/l	3	2
COD	mg/l	9	19

Leachate Analysis Q-3 2016

Parameters	Units	GS-07	GS-08
Boron	ug/l	49	111
Cadmium	ug/l	<0.5	<0.5
Calcium	mg/l	171.4	286.4
Chromium	ug/l	<1.5	<1.5
Copper	ug/l	<7	<7
Iron	ug/l	<20	<20
Lead	ug/l	<5	<5
Magnesium	mg/l	14.8	20.2
Manganese	ug/l	1,078	337
Mercury	ug/l	<1	<1
Nickel	ug/l	3	7
Potassium	mg/l	2.9	7.1
Sodium	mg/l	12.8	17
Zinc	ug/l	16	636
Fluoride	mg/l	<0.3	<0.3
Sulphate	mg/l	96.7	79.8
Chloride	mg/l	19.7	16.3
Ortho Phosphate	mg/l	<0.06	0.07
Total Oxidised Nitrogen	mg/l	<0.2	2
Total Cyanide	mg/l	<0.01	<0.01
Ammonia	mg/l	0.42	0.09
BOD	mg/l	3	<1
COD	mg/l	22	16
Electrical Conductivity	uS/cm	1231	895
pH	pH units	7.62	7.61
VOC	ug/l	ND	ND
sVOC	ug/l	ND	ND
Pesticides	ug/l	ND	ND

ND – denotes not present at levels greater than the detection limit

Leachate Analysis Q-4 2016

Parameters	Units	GS-07	GS-08
BOD	mg/l	4	<1
COD	mg/l	<7	<7

APPENDIX 2

European Pollutant Release and Transfer Register

| PRTR# : W0053 | Facility Name : Starrus Eco Holdings Limited (Fassaroe) | Filename : W0053_2016.xls | Return Year : 2016 |

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

Parent Company Name	Starrus Eco Holdings Limited
Facility Name	Starrus Eco Holdings Limited (Fassaroe)
PRTR Identification Number	W0053
Licence Number	W0053-03

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Bray Depot
Address 2	La Vallee House
Address 3	Fassaroe
Address 4	Bray
	Wicklow
Country	Ireland
Coordinates of Location	-6.141357577 53.19976882
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Sara Smyth
AER Returns Contact Email Address	sara.smyth@greenstar.ie
AER Returns Contact Position	Environmental Engineer
AER Returns Contact Telephone Number	01 2746236
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	50
User Feedback/Comments	There was an increase in the volume of waste water produced/discharged, leading to an increase in the quantity of pollutants discharged.
Web Address	

2. PRTR CLASS ACTIVITIES

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

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

Is it applicable?	
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. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
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 PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
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 C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
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
					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: Starrus Eco Holdings Limited (Fassaroe)

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
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

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as t

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
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 PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
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 C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
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
					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

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			
			Method Used					
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			
			Method Used		SE-1			
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 based on annual flow rate. Analysis is ISO accredited.	15643.33	15643.33	0.0	0.0
306	COD	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	31236.07	31236.07	0.0	0.0
308	Detergents (as MBAS)	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	31.52587	31.52587	0.0	0.0
314	Fats, Oils and Greases	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	18.30925	18.30925	0.0	0.0
324	Mineral oils	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	18.30925	18.30925	0.0	0.0
343	Sulphate	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	5539.216	5539.216	0.0	0.0
240	**Suspended Solids**	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited.	2382.628	2382.628	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					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					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)

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	13 02 08	Yes	2.26	other engine, gear and lubricating oils	R3	M	Weighed	Offsite in Ireland	Enva Ltd.,W0184-01	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Enva Ltd.,W0184-01,Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland
Within the Country	15 01 01	No	472.28	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Materia Environmental Ltd,IRE/AG161/11	The Kipper House ,Scilly,Scilly,Kinsale,Co Cork		
To Other Countries	15 01 01	No	396.2	paper and cardboard packaging	R3	M	Weighed	Abroad	Cellmark USA,IRE/G180/11	200 Tamal Plaza,California,.,95245,United States		
Within the Country	15 01 01	No	214.7	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Irish Packaging & Recycling,W0263-01	Ballymount Road,Walkinstown,Dublin 12,.,Ireland		
To Other Countries	15 01 01	No	2541.16	paper and cardboard packaging	R3	M	Weighed	Abroad	MLM (ACN Europe) Ltd ,TFS Broker IRE/G022/11	.,.,.,.,United Kingdom		
To Other Countries	15 01 01	No	302.82	paper and cardboard packaging	R3	M	Weighed	Abroad	Mark Lyndon Paper Enterprises,IRE/G021/12 12	12 The Triangle ,Nottingham ,Nottinghamshire NG2 1AE,.,United Kingdom		
Within the Country	15 01 01	No	496.3	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Agnail Ltd.,IRE/AG117/16	Ballymacken Industrial Estate,Ballymacken ,Portlaoise,Co. Laois,Ireland		
To Other Countries	15 01 01	No	960.48	paper and cardboard packaging	R3	M	Weighed	Abroad	Peute Papier Recycling BV,IRE/G006/08	Veeplaat 40,3313 LJ Dordrecht,.,.,.,Netherlands		
Within the Country	15 01 02	No	6.52	plastic packaging	R3	M	Weighed	Offsite in Ireland	Irish Packaging & Recycling,W0263-01	Ballymount Road,Walkinstown,Dublin 12,.,Ireland		
To Other Countries	15 01 02	No	2565.96	plastic packaging	R3	M	Weighed	Abroad	WRC Recycling,IRE/AG121/15	Floors St,Johnstown,Renfrewshire, PA5 8QS,united kingdom		
Within the Country	15 01 02	No	38.6	plastic packaging	R3	M	Weighed	Offsite in Ireland	Agnail Ltd.,IRE/AG117/16	Ballymacken Industrial Estate,Ballymacken ,Portlaoise,Co. Laois,Ireland		
To Other Countries	15 01 02	No	21.68	plastic packaging	R3	M	Weighed	Abroad	Peute Papier Recycling BV,IRE/G006/08	Veeplaat 40,3313 LJ Dordrecht,.,.,.,Netherlands		
Within the Country	15 01 02	No	24.12	plastic packaging	R3	M	Weighed	Offsite in Ireland	Leinster Environmentals,WP 2008/06	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	15 01 02	No	118.5	plastic packaging	R3	M	Weighed	Offsite in Ireland	Marwin Environmental Trading,IRE/G027/15	Rubicon Centre , C.I.T Campus Bishopstown ,cork,-,ireland		
Within the Country	15 01 02	No	5.82	plastic packaging	R3	M	Weighed	Offsite in Ireland	Materia Environmental Ltd,IRE/AG161/11	The Kipper House ,Scilly,Scilly,Kinsale,Co Cork		
Within the Country	15 01 02	No	545.13	plastic packaging	R3	M	Weighed	Offsite in Ireland	Shabra Recycling,WFP-MN-08-0022-01	Killycard Industrial Estate,Castleblayney,Co. Monaghan,.,Ireland		
To Other Countries	15 01 02	No	312.36	plastic packaging	R3	M	Weighed	Abroad	Envirogreen Polymers,WMEX 03/68 & WCP/MH/10/0008-01	227 Battleford Road ,Armagh ,Co. Armagh ,BT71 7NN,ireland		
To Other Countries	15 01 02	No	11.9	plastic packaging	R3	M	Weighed	Abroad	Thamesdown Recycling,IRE/G449/18	Swindon,SN6 6JR,.,.,United Kingdom		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	15 01 02	No	3.38	plastic packaging	R3	M	Weighed	Offsite in Ireland	Dublin City Council,W0238-01	Merrywell Industrial Estate,Ballymount Road Lower,Ballymount ,Dublin 12,Ireland		
To Other Countries	15 01 02	No	21.62	plastic packaging	R3	M	Weighed	Abroad	Irish Polymer Extrusions,WFP-LS-13-0001-01	Mountmellick,Co. Laois,,,,Ireland		
Within the Country	15 01 03	No	36.18	wooden packaging	R3	M	Weighed	Offsite in Ireland	CJ Sheeran,P0337-01	The Sawmills ,Shannon Street ,Mountrath ,Co. Laois ,ireland		
Within the Country	15 01 03	No	8.0	wooden packaging	R3	M	Weighed	Offsite in Ireland	Max Pallet Services,Not Required	Colemanstown,Rathcoole,Co. Dublin,.,Ireland		
Within the Country	15 01 04	No	26.14	metallic packaging	R4	M	Weighed	Offsite in Ireland	Green Dragon Recycling, WFP-CK-10-0060-02	Corbally North,Glanmire,Co. Cork,.,Ireland		
To Other Countries	15 01 04	No	5.72	metallic packaging	R4	M	Weighed	Abroad	WRC Recycling,IRE/AG121/15	Floors St ,Johnstone ,Renfrewshire , PA5 8QS scotland,united kingdom		
Within the Country	15 01 04	No	12.7	metallic packaging	R4	M	Weighed	Offsite in Ireland	Wilton Waste Recycling Ltd,WFP-CN-15-0003-01	Kiffagh,Crosserlough,Ballyjamesduff,Co. Cavan,Ireland		
Within the Country	15 01 06	No	142.3	mixed packaging	R13	M	Weighed	Offsite in Ireland	Dublin City Council,W0238-01	Merrywell Industrial Estate,Ballymount Road Lower,Ballymount ,Dublin 12,Ireland		
Within the Country	16 05 04	Yes	0.32	gases in pressure containers (including halons) containing dangerous substances	R4	M	Weighed	Offsite in Ireland	Harbour Trading Company,N/A	Harbour Industrial Estate,Harbour Road,Bray,Co. Wicklow,Ireland	Harbour Trading Company,N/A,Harbour Industrial Estate,Harbour Road,Bray,Co. Wicklow,Ireland	Harbour Industrial Estate,Harbour Road,Bray,Co. Wicklow,Ireland
Within the Country	16 05 04	Yes	0.48	gases in pressure containers (including halons) containing dangerous substances	R3	M	Weighed	Offsite in Ireland	Calor Gas,N/A	Long Mile Road,Drimnagh,Dublin,.,Ireland	Calor Gas,N/A,Long Mile Road,Drimnagh,Dublin,.,Ireland	Long Mile Road,Drimnagh,Dublin,.,Ireland
Within the Country	17 02 03	No	2.3	plastic	R3	M	Weighed	Offsite in Ireland	Agnail Ltd.,IRE/AG117/16	Ballymacken Industrial Estate,Ballymacken ,Portlaoise,Co. Laois,Ireland		
Within the Country	17 09 04	No	420.72	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Bequparc,Navan,Co. Meath,Ireland		
Within the Country	19 12 07	No	32531.76	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Thorntons Recycling Centre Limited,W0210-01	Pass of Kilbride,Milltownpass,Co. Westmeath,.,Ireland		
Within the Country	19 12 09	No	2994.06	minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 12 09	No	21.38	minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Kentstown ,Co. Meath ,-,-,Ireland		
Within the Country	19 12 09	No	5791.2	minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	Marrakesh Landfill,W0048-01	Kilmurry South ,Bray ,Co Wicklow ,.,ireland		
Within the Country	19 12 09	No	77.92	minerals (for example sand, stones)	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Bequparc,Navan,Co. Meath,Ireland		
Within the Country	19 12 12	No	36066.58	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 12 12	No	155.28	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland		
Within the Country	19 12 12	No	7028.44	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Kentstown ,Co. Meath ,-,-,Ireland		
Within the Country	19 12 10	No	25064.14	combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Bequparc,Navan,Co. Meath,Ireland		
Within the Country	19 12 12	No	35.64	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R1	M	Weighed	Offsite in Ireland	Indaver Ireland Ltd.,W0167-03	Carranstown,Duleek,Co. Meath,.,Ireland		
Within the Country	19 12 12	No	49.58	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Irish Cement,P0030-04	Platin Works,Drogheda,Co.Louth,.,Ireland		
To Other Countries	20 01 01	No	2651.8	paper and cardboard	R3	M	Weighed	Abroad	MLM (ACN Europe) Ltd ,TFS Broker IRE/G022/11	.,.,.,.,United Kingdom		
To Other Countries	20 01 01	No	4664.88	paper and cardboard	R3	M	Weighed	Abroad	Peute Papier Recycling BV,IRE/G006/08	Veeplaat 40,3313 LJ Dordrecht,.,.,.Netherlands		
Within the Country	20 01 01	No	305.38	paper and cardboard	R3	M	Weighed	Offsite in Ireland	Irish Packaging & Recycling,W0263-01	Ballymount Road,Walkinstown,Dublin 12,.,Ireland		
Within the Country	20 01 01	No	310.46	paper and cardboard	R3	M	Weighed	Offsite in Ireland	Agnail Ltd.,IRE/AG117/16	Ballymacken Industrial Estate,Ballymacken ,Portlaoise,Co. Laois,Ireland		
Within the Country	20 01 08	No	2763.42	biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Waddocks Composting,WP11/04 & WP 01/02	Killamaster,Co. Carlow,.,.,Ireland		
Within the Country	20 01 08	No	26.56	biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	O'Toole Composting Limited,W0284-01	Ballintrane,Fenagh,Co. Carlow,.,Ireland	MLM (ACN Europe) Ltd.,IRE/G022/11,.,.,.,.,United Kingdom	.,.,.,.,United Kingdom
Within the Country	20 01 38	No	16.56	wood other than that mentioned in 20 01 37	R3	M	Weighed	Offsite in Ireland	Clonmel Waste Disposal Ltd ,WP-008-02	Lawlesstown , Clonmel , Co. Tipperary ,-,ireland	Multi Metals ,WFP-WW-09-0014-01	Blessington ,Co Wicklow ,.,.,ireland
Within the Country	20 01 38	No	86.04	wood other than that mentioned in 20 01 37	R3	M	Weighed	Offsite in Ireland	Thorntons Recycling Centre Limited,W0210-01	Pass of Kilbride,Milltownpass,Co. Westmeath,.,Ireland		
Within the Country	20 01 38	No	201.88	wood other than that mentioned in 20 01 37	R3	M	Weighed	Offsite in Ireland	Ormonde Organics,W0237-01	Unit 643 Greenogue Industrial Estate,Rathcoole,Co. Dublin,.,Ireland		
Within the Country	20 01 38	No	83.68	wood other than that mentioned in 20 01 37	R4	M	Weighed	Offsite in Ireland	OCR Waste Management,WFG-RN-10-0001-01	Roxborough,Rosscommon,Co. Rosscommon,.,Ireland		
Within the Country	20 01 39	No	3.4	plastics	R3	M	Weighed	Offsite in Ireland	North Chemicals,NA	Unit 6C Malahide Road Industrial Park ,Coolock , Dublin 17.,-,Ireland		
Within the Country	20 01 39	No	8.6	plastics	R3	M	Weighed	Offsite in Ireland	Leinster Environmentals,WP 2008/06	Clermont Business Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 40	No	14.48	metals	R4	M	Weighed	Offsite in Ireland	Davis Recycling Ltd,W0134-01	10 The Anchorage Business Park,Charlotte Quay,Dublin 4,.,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
										ClearCircle Metals (Limerick) Ltd		
Within the Country	20 01 40	No	76.02	metals	R4	M	Weighed	Offsite in Ireland	Clearcirlce,WCP-LK-08-589-01	,Ballysimon Road ,Limerick,.,ireland		
Within the Country	20 01 40	No	3471.74	metals	R4	M	Weighed	Offsite in Ireland	Multi Metals ,WFP-WW-09-0014-01	Blessington ,Co Wicklow ,.,.,ireland		
Within the Country	20 01 40	No	6.76	metals	R4	M	Weighed	Offsite in Ireland	St Margarets Recycling & Transfer Centre,WFP-FG-13-0002-01	Sandyhills,St. Margarets,Co. Dublin,.,Ireland		
Within the Country	20 02 01	No	165.42	biodegradable waste	R3	M	Weighed	Offsite in Ireland	Enrich Environmental,WMP 2004/57	Kilcock Co. Kildare,.,.,.,.,Ireland		
Within the Country	20 03 01	No	23.56	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona. Drehid Landfill,W0201-03	Carbury ,Co Kildare ,-,-,Ireland		
Within the Country	20 03 01	No	29926.7	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	20 03 01	No	47.98	mixed municipal waste	R1	M	Weighed	Offsite in Ireland	Indaver Ireland Ltd.,W0167-03	Carranstown,Duleek,Co. Meath,.,Ireland		
Within the Country	20 03 01	No	1053.68	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0039-02	Ballymount Cross,Tallaght,Dublin 24,.,Ireland		
Within the Country	20 03 01	No	2961.91	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Kentstown ,Co. Meath ,-,-,Ireland		
Within the Country	20 03 01	No	12.86	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland		
Within the Country	20 03 01	No	295.44	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0082-03	Ballykeefe Townland,Dock Road,Limerick,.,ireland		
Within the Country	20 03 03	No	4742.83	street-cleaning residues	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	20 03 03	No	23.4	street-cleaning residues	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Kentstown ,Co. Meath ,-,-,Ireland		
Within the Country	20 03 07	No	4199.07	bulky waste	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	20 03 07	No	43.54	bulky waste	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-02	Kentstown ,Co. Meath ,-,-,Ireland		
Within the Country	19 05 01	No	148.72	non-composted fraction of municipal and similar wastes	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 05 03	No	8008.77	off-specification compost	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 05 99	No	495.7	wastes not otherwise specified	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 08 01	No	74.0	screenings	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 08 02	No	4.72	waste from desanding	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
Within the Country	19 12 10	No	708.62	combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland		
Within the Country	19 12 10	No	116.02	combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Greyhound Recycling,W205-01	Crag Avenue,Clondalkin Industrial Estate,Clondalkin ,Dublin 22,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	20 01 08	No	3.34	biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran,Coolbeg & Kilcandra,Co. Wicklow,.,Ireland		
To Other Countries	20 01 39	No	2.62	plastics	R13	M	Weighed	Abroad	Glenn Drums Recycling Ltd,ROC 2443	38 Upper Lisdrumchor Road,Glenane,Co. Armagh,BT60 2LD,United Kingdom		
Within the Country	20 02 01	No	9.34	biodegradable waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland		
Within the Country	20 02 01	No	1280.56	biodegradable waste	R3	M	Weighed	Offsite in Ireland	Bord na Mona. Drehid Landfill,W0201-03	Carbury ,Co Kildare ,-,-,Ireland		
To Other Countries	15 01 02	No	144.3	plastic packaging	R13	M	Weighed	Abroad	Paul McDaid T/A Solutions,IRE/G443/17	Ard Na Grena,65 Makenny Road,Enniskillen,BT94 2AY,United Kingdom		
Within the Country	15 01 06	No	29.22	mixed packaging	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0039-02	Ballymount Cross,Tallaght,Dublin 24,.,Ireland		
Within the Country	20 03 01	No	2188.12	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Dublin City Council,W0238-01	Merrywell Industrial Estate,Ballymount Road Lower,Ballymount ,Dublin 12,Ireland		
Within the Country	20 03 07	No	24.6	bulky waste	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Bequparc,Navan,Co. Meath,Ireland		
Within the Country	**15 01 02**	**No**	773.8	plastic packaging	R13	M	Weighed	Offsite in Ireland	Boost Recycling,IRE/G082/17	c/o M Whelan,Meadow View House,Lisgriffin,Co. Cork,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

APPENDIX 3

Procedures Index

Integrated Procedures - IP		
IP-01	Document & Record Control Procedure	Rev 01, 28/04/14
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IP-03	Environmental Aspects & Impacts Procedure	Rev 01, 28/04/14
IP-04	Legal & Regulatory Requirements Procedure	Rev 01, 28/04/14
IP-05	Objectives, Targets & Management Programmes Procedure	Rev 02, 21/01/16
IP-06	Competence, Training & Awareness Procedure	Rev 01, 28/04/14
IP-07	Communication & Consultation Procedure	Rev 02, 21/01/16
IP-08	Monitoring, Measurement & Improvement Procedure	Rev 01, 28/04/14
IP-09	Evaluation of Compliance Procedure	Rev 01, 28/04/14
IP-10	Non Conformances, Corrective/Preventive Actions Procedure	Rev 01, 28/04/14
IP-11	Internal Audit Procedure	Rev 01, 28/04/14
IP-12	Management Review Procedure	Rev 02, 21/01/16
IP-13	Control of Contractors/Visitors Procedure	Rev 01, 28/04/14
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IP-16	Fire Prevention Procedure	Rev 01, 28/04/14
IP-17	Bin Washing Procedure	Rev 01, 28/04/14
IP-18	Accident Prevention Procedure	Rev 02, 14/11/16
IP-19	Fuel Procedure for Tanks & Mobile Plant	Rev 01, 11/01/17

Safety Procedures - SP		
SP-01	Permit to Work Procedure	Rev 01, 28/04/14
SP-02	Maintenance & Calibration Procedure	Rev 01, 28/04/14
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SP-04	Fork Truck Procedure	Rev 01, 28/04/14
SP-05	Operation of Fixed Plant Procedure	Rev 01, 28/04/14
SP-06	Lock Out / Tag Out Procedure	Rev 01, 28/04/14
SP-07	Health & Safety Notification Procedure	Rev 01, 28/04/14
SP-08	MSW Shredder routine Maintenance & Clearing of Blockages Procedure (SCGT)	Rev 01, 28/04/14
SP-09	Weighbridge & Tipping Procedure (SCGT)	Rev 01, 28/04/14
SP-10	Cleaning of Washing Bay (Greenogue)	Rev 01, 28/04/14

Environmental Procedures - EP		
EP-01	Office Waste & Energy Management Procedure	Rev 01, 28/04/14
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EP-03	Environment Communications Procedure	Rev 01, 28/04/14
EP-04	Waste Permits & Licences Procedure	Rev 01, 28/04/14
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EP-10	Nuisance Management Procedure (Site Specific)	(Site Specific) Rev 01, 28/04/14
EP-11	Civic Amenity Site Procedure	Rev 01, 28/04/14

Amendment History

Date	Amendment No.	Procedure No:	Revision No:	Comment	Authorised By
05.07.10	01	All	01	Initial Issue	M.D & O.C
13.09.10	02	EP-03	02	Issue of Incident Reports	M.D
20.09.10	03	IP-10	02	Env issues not logged on WIMS Database	M.D
29.10.10	04	IP-13	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	05	IP-14	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	06	SP-02	02	Inclusion of Maintenance Schedule	M.D & O.C
05.11.10	07	IP-04	02	Inclusion of other requirements	S.B & O.C
01.02.11	08	SP-08	01	Inclusion of new procedure	O.C
01.02.11	09	IP-10	03	Inclusion of SP-08	O.C
01.02.11	10	IP-15	02	Removal of SF-022	O.C
01.02.11	11	Contents	As shown	EP-10 Site Specific	M.D & O.C
01.02.11	12	IP-06	02	Addressing Agency Staff needs	M.D & O.C
01.02.11	13	Circ List	02	Amendment to document control	M.D & O.C
04.04.11	14	SP-02	03	Inclusion of Site Specific Maintenance schedules	O.C
07.06.11	15	IP-11	02	Inclusion of H&S & Env Internal Audit Schedules	M.D & O.C
14/09/11	16	EP-02	02	Inclusion of decommissioning of plant/equipment	S.B
15/09/11	17	IP-09	02	Inclusion of Statutory Inspections	O.C
01/12/11	18	SP-09	01	Inclusion of new procedure for SCGT	O.C
01/12/11	19	SP-10	01	Inclusion of new procedure for SCGT	O.C
03/05/12	20	SP-01	02	Amendment to remove SF 028	O.C
05/05/12	21	SP-11	01	Inclusion of a new procedure for Greenogue	O.C
28/05/12	22	IP-11	03	General Amendments to internal audit procedure	M.D & O.C
08/06/12	23	IP-13	03	Grammatical amendment	M.D & O.C
15/04/13	24	IP-06	03	Agency staff – sign-off record sufficient proof of training. TMS optional	M.D & O.C

Date	Amendment No.	Procedure No:	Revision No:	Comment	Authorised By
30/06/13	25	IP-16	01	Inclusion of new procedure	M.D.
09/09/13	26	IP-03	02	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
09/09/13	27	IP-04	30	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
09/09/13	28	IP-05	02	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
16/10/13	29	EP-03	03	Introduction of EPA ALDER Portal	K.B
28/04/14	30	All EP's & IP's	01	Change of Company name and review of all Integrated and Env procedures	M.D & O.C
28/04/14	31	SP's	01	Change of Company name and review of all safety procedures including re-numbering & deletion of Motor Claim Notification Procedure – SP 08	O.C
06/05/15	32	EP-09	02	Ref to new form EF-11 added	SS
21/01/16	33	IP-05/IP-07/IP-12	02	Meeting frequency refs updated	SS
14/11/16	34	IP-18	02	Amended as per EPA instruction	SS
11/01/17	35	IP-19	01	New addition	SS

Circulation List

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