South Dublin County Council

Ballymount Solid Waste
Recycling and Baling Centre and Civic Amenity

Waste Licence Reg. No.W0003-03

Annual Environmental Report
1st January 2010 – 31st December 2010

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

Issued 31st March 2011

BALLYMOUNT SOLID WASTE

RECYCLING AND BALING CENTRE

ANNUAL ENVIRONMENTAL REPORT

1st January 2010 – 31st December 2010

Environmental Services Department,
South Dublin County Council,
PO Box 4122,
Town Centre,
Tallaght,
Dublin 24.

March 2011

BALLYMOUNT SOLID WASTE

RECYCLING AND BALING CENTRE

ANNUAL ENVIRONMENTAL REPORT

1st January 2010 – 31st December 2010

REVISION CONTROL TABLE

User is Responsible for Checking The Revision Status Of This Document

Rev. No.	Description of Changes:	Prepared by:	Checked by:	Approved by:	Date:	No. of Copies
0	1st Draft	P.H.			07/10/00	3
1	1st Draft	JMC			08/03/02	3
2	2nd Draft	JMC	LM	SM	31/01/03	3
3	3rd Draft	P.G			31/01/04	3
4	3rd Draft	P.G	DF		24/01/05	3
5	1st Draft	P.G				5
6	1st Draft	G.M.			04/01/07	5
7	1st Draft	G.M.	LM		02/04/08	5
8	1st Draft	E.B.	LM		23/03/09	5
9	1st Draft	E.B.	LM		25/03/10	5
10	1st Draft	E.B.	LM		25/03/10	5

TABLE OF CONTENTS

Appendix

1. INTRODUCTION

South Dublin County Council (the Council) holds a Waste Licence (Reg. No. 0003-03) to operate Ballymount Solid Waste Recycling and Baling Centre and Civic Amenity Facility at Ballymount Avenue, Walkinstown, Dublin 12. In accordance with the requirements of Condition 11.5 of the Waste Licence, an Annual Environmental Report (AER) for the facility must be submitted to the Environmental Protection Agency (EPA).

This is the eleventh AER, covering the reporting period 1st January 2010 – 31st December 2010 as agreed with the Agency.
The facility is operated on the basis of a joint venture agreement between the Council and Greenstar Ltd. The facility is located at: -

Ballymount Solid Waste Recycling and Baling Centre,
Ballymount Avenue,
Walkinstown,
Dublin 12

Tel. (01) 4621251 Fax: (01) 4525145

National Grid co-ordinates for the location of the facility are: E 3103 N 2302.

1.1. South Dublin County Council/Greenstar Policy

The Council and Greenstar have developed an Environmental Policy for the facility, which is committed to conducting all activities such that they have a minimal effect on the environment.

All levels of management are committed to implementing and maintaining an environmental management programme in compliance with the requirements of the Environmental Protection Agency.

The key objectives of the Council and Greenstar's joint venture management committee are: -

1. A commitment to compliance with the Waste Licence and all pertinent environmental legislation and approved codes of practice. To this end, the joint venture management committee will co-operate fully with all regulatory authorities.

2. To continually develop and modify all procedures to reduce environmental impacts.

3. To train and educate all employees in the skills and understanding necessary to minimise any risk to the environment.

4. To ensure that all management and employees are familiar with the conditions of the Waste Licence and the content of the Environmental Management Plan (EMP).

2. DESCRIPTION OF THE SITE

The Recycling and Baling Centre is located at Ballymount Avenue, Walkinstown, Dublin 12, within an area zoned for industrial development. The site location plan is shown in Figure 1. The facility is surrounded in the industrial park by various warehouses and industrial buildings and is adjacent to the N81 (Greenhills Road) on its eastern boundary.

Waste handling activities at the facility consist of baling municipal/household waste for transfer to Arthurstown and DrehidLandfill in 2010, and the acceptance of certain recyclable waste types at the Civic Amenity Facility. The main activity is the baling and transfer of waste to Arthurstown and Drehid Landfill. The licensed waste activities are listed below.

Licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act 1996 include: -

Class 12:	Repackaging prior to submission to any activity referred to in this Schedule.
Class 13:	Storage prior to submission to any activity referred to in this Schedule, other than temporary storage, pending collection, on the premises, where the waste concerned is produced.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996 include: -

Class 3:	Recycling or reclamation of metals and metal compounds.
Class 4:	Recycling or reclamation of other inorganic materials.
Class 13:	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this schedule, other than the temporary storage, pending collection, on the premises where such waste is produced.

It is considered that the activities carried out at the baling centre do not have an adversely significant impact upon local environmental conditions due to the fully enclosed nature of the facility. While the Civic Amenity Facility is not enclosed, there are no activities carried out which affect local environmental conditions.

Local environmental conditions do not significantly influence the facility. Rainfall records for the area indicate an average rainfall of 978 mm in 2010. The surface water drainage system is designed with an adequate capacity for high rainfall events at the site. Average prevailing winds are from a south westerly direction.

There are approximately 15 people employed on a full-time basis at the facility.

Figure 2.1 Site Location Map

3. MONITORING AND EMISSIONS SUMMARY

Environmental monitoring results for the reporting period are outlined in the following sections. An interpretation of the results and impacts on the environment are also presented. A site plan showing the position of each monitoring location is included in the Appendix.

3.1. Monitoring of Surface Water

Condition 8.1 of Waste Management Licence W0003-03 requires that quarterly monitoring be undertaken at three points on the partially culverted stream to the Northwest of the facility. Two of the monitoring points (S1 and S2) are upstream (us) of the site, while the other point (S3) is downstream (ds) of the site. Surface water parameters are measured quarterly in accordance with Schedule D.4 of the Licence. The surface water monitoring results are summarised in Table 3.1, which can be found in the Appendix and in Figures 3.1 to 3.5. The results are compared where applicable to the limits for the A3 water quality class as set out in the EU Quality of Surface Water Intended for the Abstraction of Drinking Water Regulations (SI No. 294 of 1989).

The surface water monitoring results for grab samples taken at S1, S2 and S3 during the reporting period 1st January to 31st December 2010 were fully compliant.

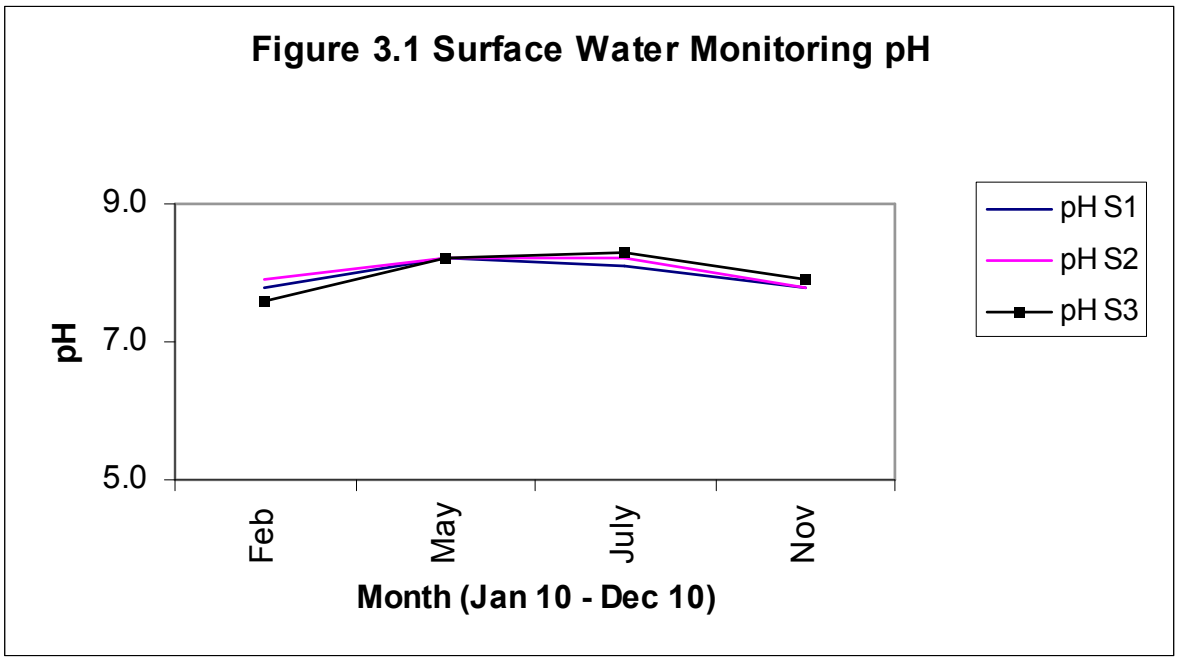

Figure 3.1 Surface Water Monitoring - pH

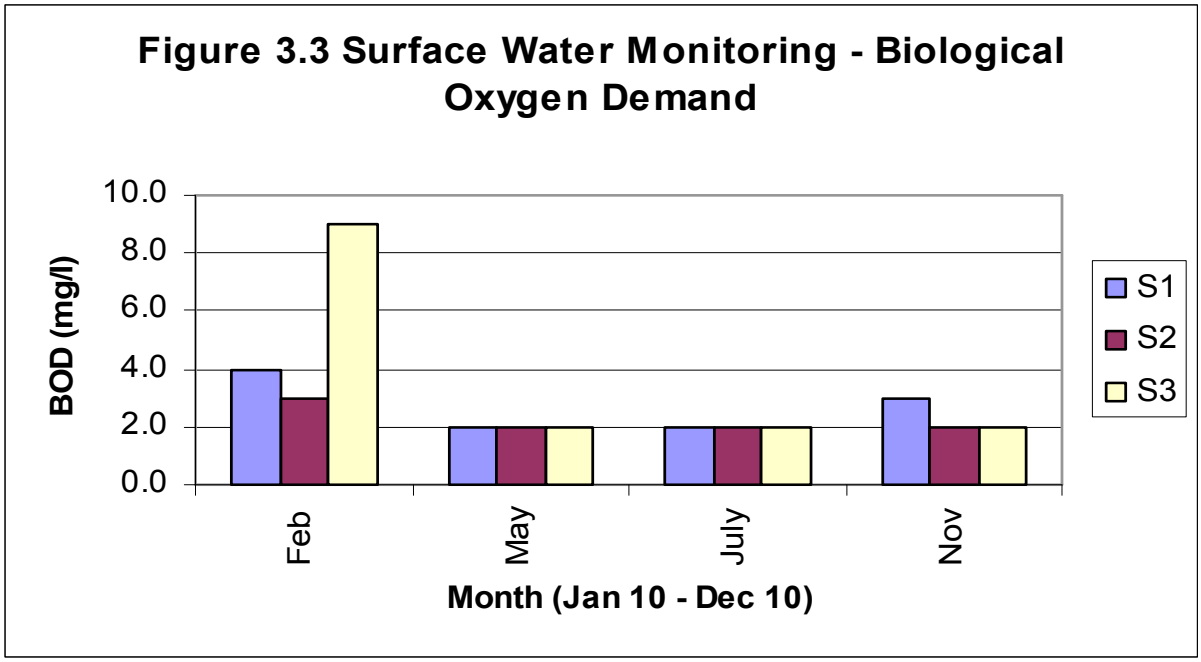

Figure 3.2 Surface Water Monitoring - Biological Oxygen Demand (ELV 25mg/l)

(BOD detectable limit: <2mg/l)

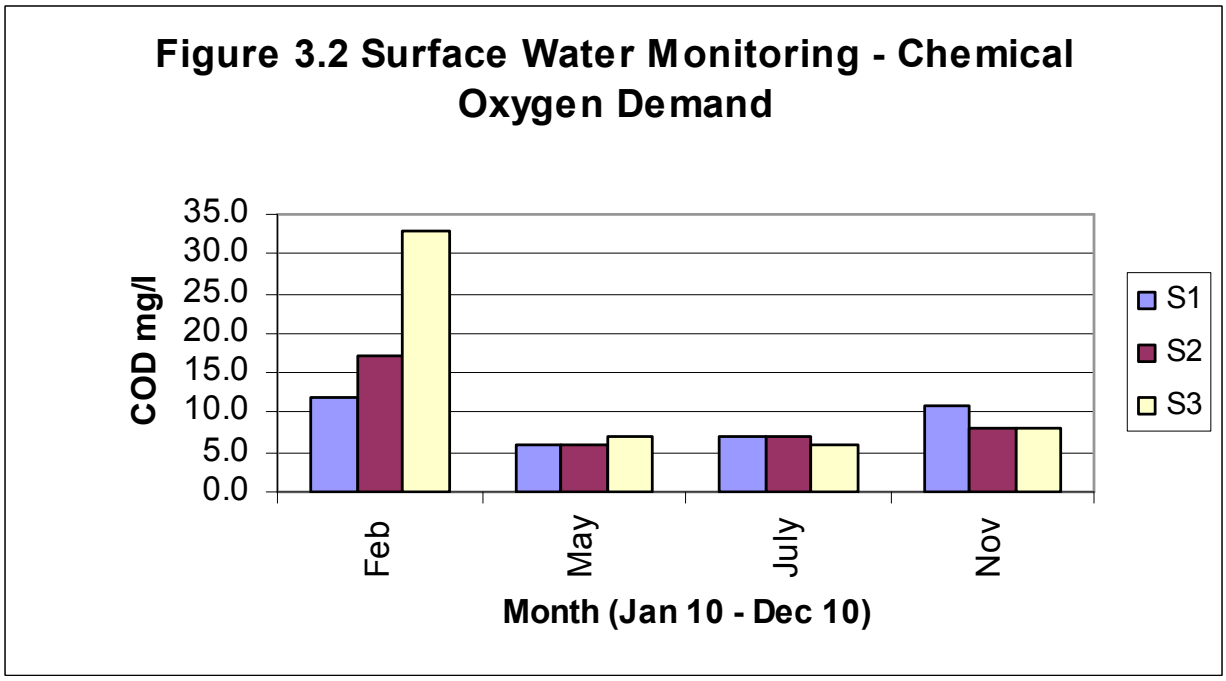

Figure 3.3 Surface Water Monitoring - Chemical Oxygen Demand (ELV 150mg/l)

(COD detectable limit: <4mg/l)

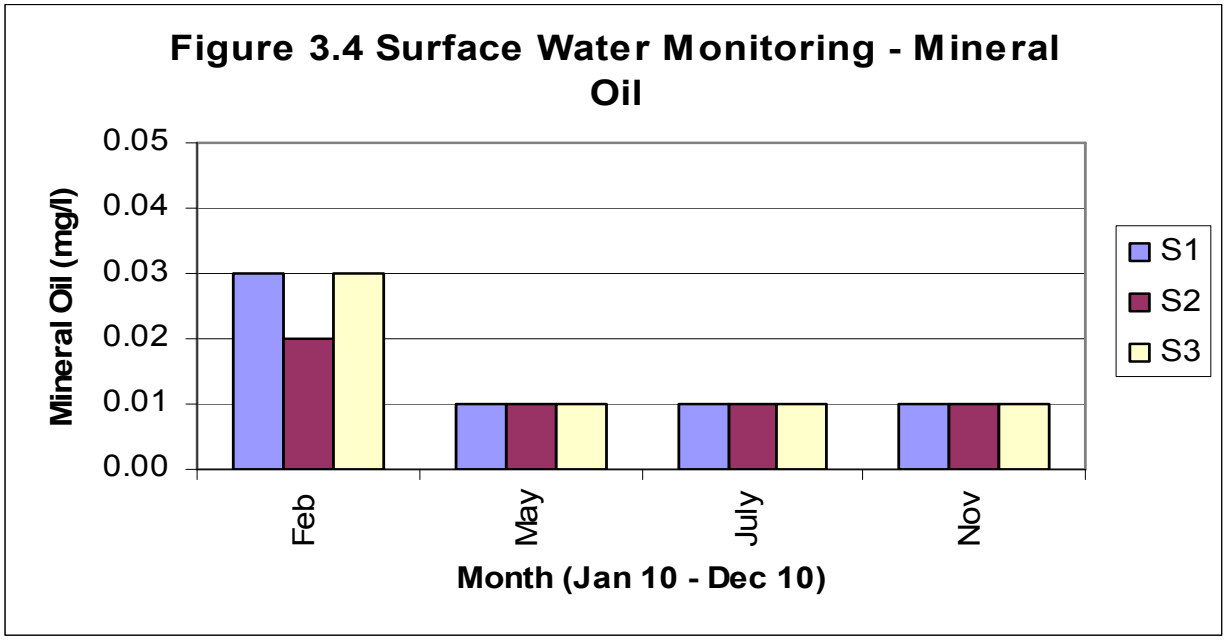

Figure 3.4 Surface Water Monitoring - Mineral Oil (ELV 10mg/l)

(Mineral Oil detectable limit: 0.04mg/l)

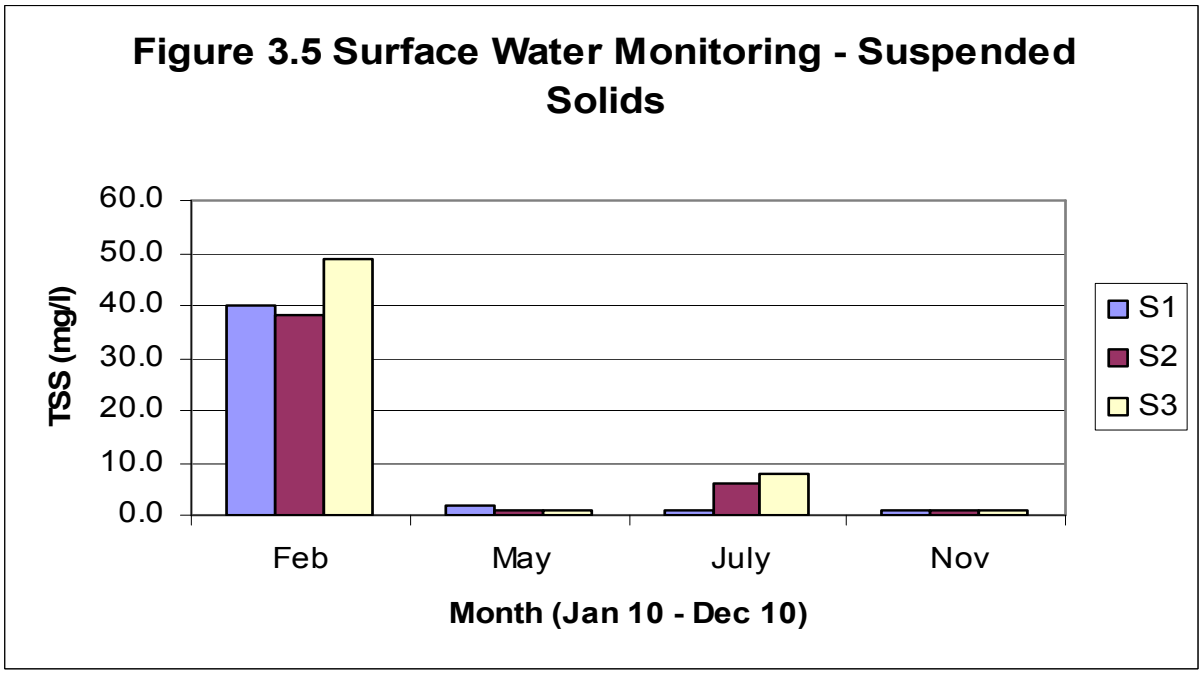

Figure 3.5 Surface Water Monitoring - Suspended Solids (ELV 35mg/l)

3.2. Emissions to Surface Water

The Licence requires that emissions to surface water be measured quarterly (subject to rainfall events) at SWE1A and SWE1B. Schedule C.3 sets out Emission Limit Values for Chemical Oxygen Demand (COD) and Oils, Fats, Greases (OFG). Condition 6.6.2 sets out the trigger levels for Biological Oxygen Demand (BOD) and Suspended Solids (SS).

Table 3.2 Due to insufficient sampling volumes at rainfall events only one sample was obtained during the reporting period.

Monitoring Point	SWE1A				SWE1B			
	COD mg/l	OFG mg/l	BOD mg/l	SS mg/l	COD mg/l	OFG mg/l	BOD mg/l	SS mg/l
ELV*	**150**	**10**	**25**	**35**	**150**	**10**	**25**	**35**
January	728	NR	247	550	No flow	No flow	No flow	No flow
April	No flow	No flow	No flow	No flow	No flow	No flow	No flow	No flow
July	No flow	No flow	No flow	No flow	No flow	No flow	No flow	No flow
November	No flow	No flow	No flow	No flow	No flow	No flow	No flow	No flow

Table 3-1 Emissions to Surface Waters

3.3. Emissions to Foul Sewer

Condition 8.1 requires that emissions to foul sewer (at F6) be monitored on a quarterly basis. One exceedence of the Emission Limit Values as set out in Schedule C.4 of the Waste Licence was recorded for any emissions to the sewer over 4 sampling events. The results are illustrated in Figures 3.6 to 3.12. A table of monitoring results is included in the Appendix.

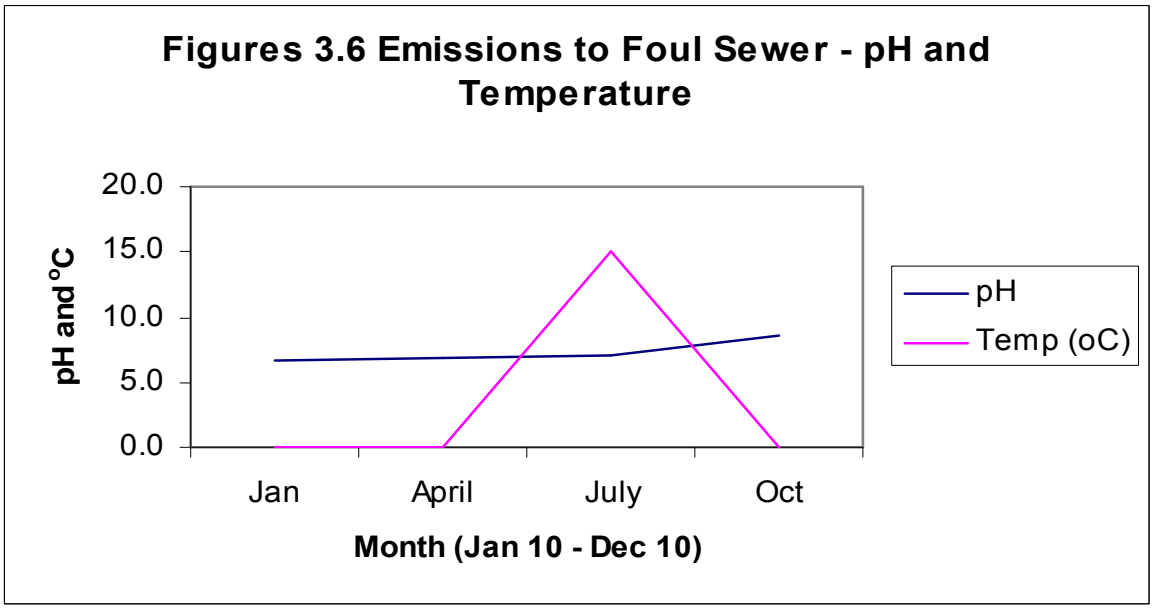

Figure 3.6 Emissions to Foul Sewer - pH and Temperature (ELV 5-10 & 42^{O}C)

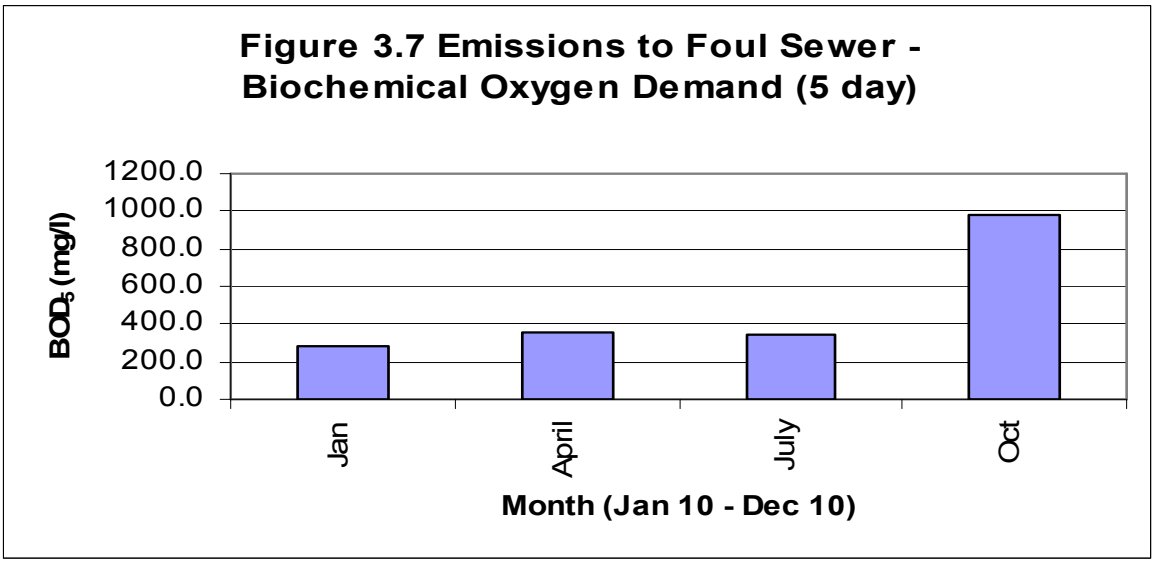

Figure 3.7 Emissions to Foul Sewer - Biochemical Oxygen Demand (5 day) (ELV 10,000mg/l)

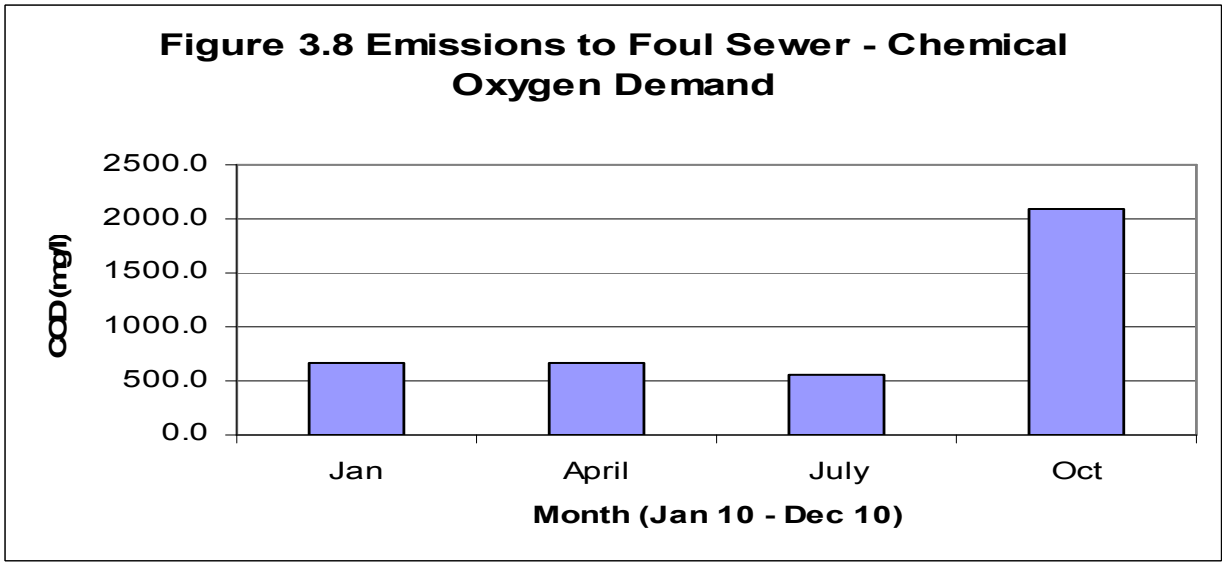

Figure 3.8 Emissions to Foul Sewer - Chemical Oxygen Demand (ELV 30,000mg/l)

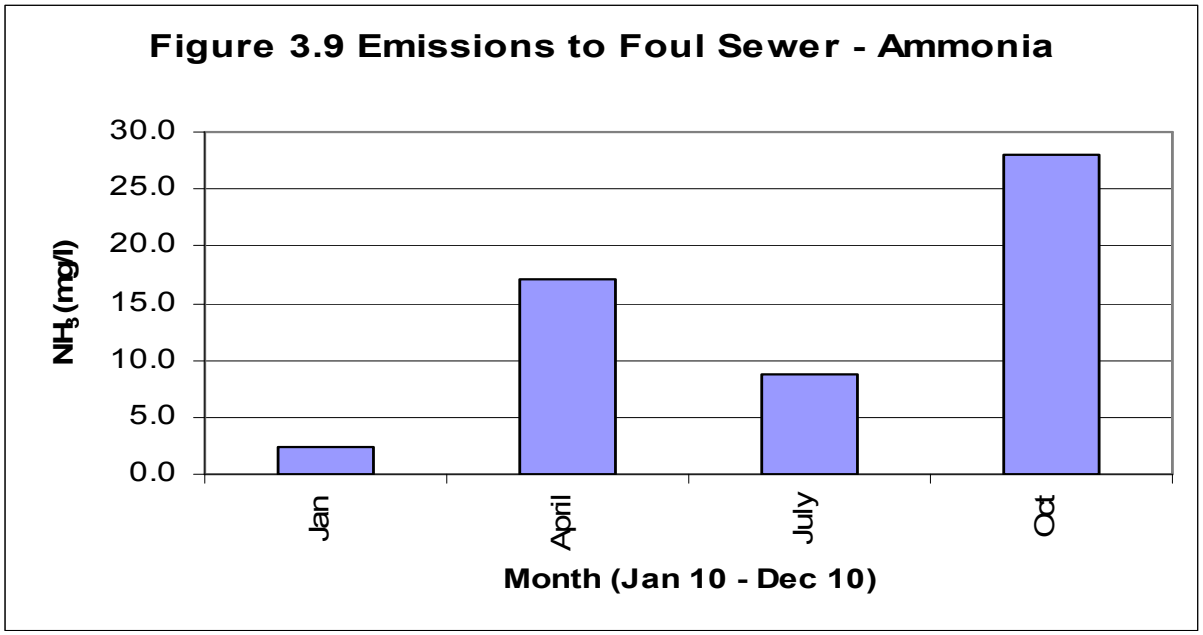

Figure 3.9 Emissions to Foul Sewer – Ammonia (ELV 50mg/l)

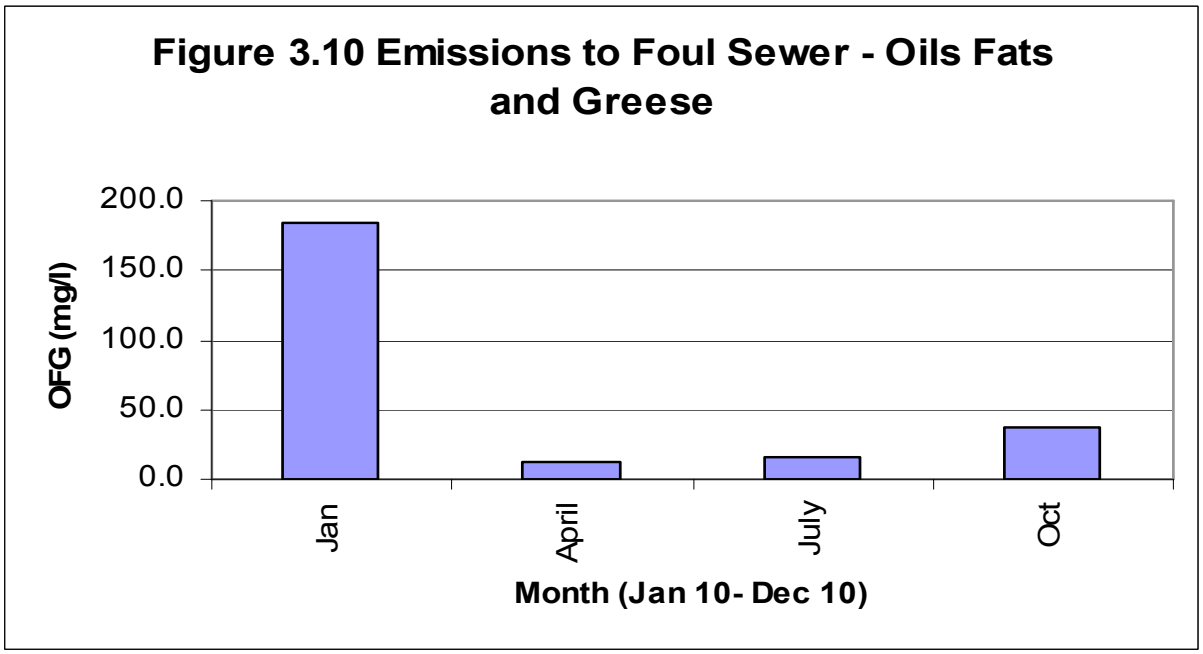

Figure 3.10 Emissions to Foul Sewer - Oils Fats and Grease (ELV 100mg/l)

(OFG detectable limit: <2mg/l)

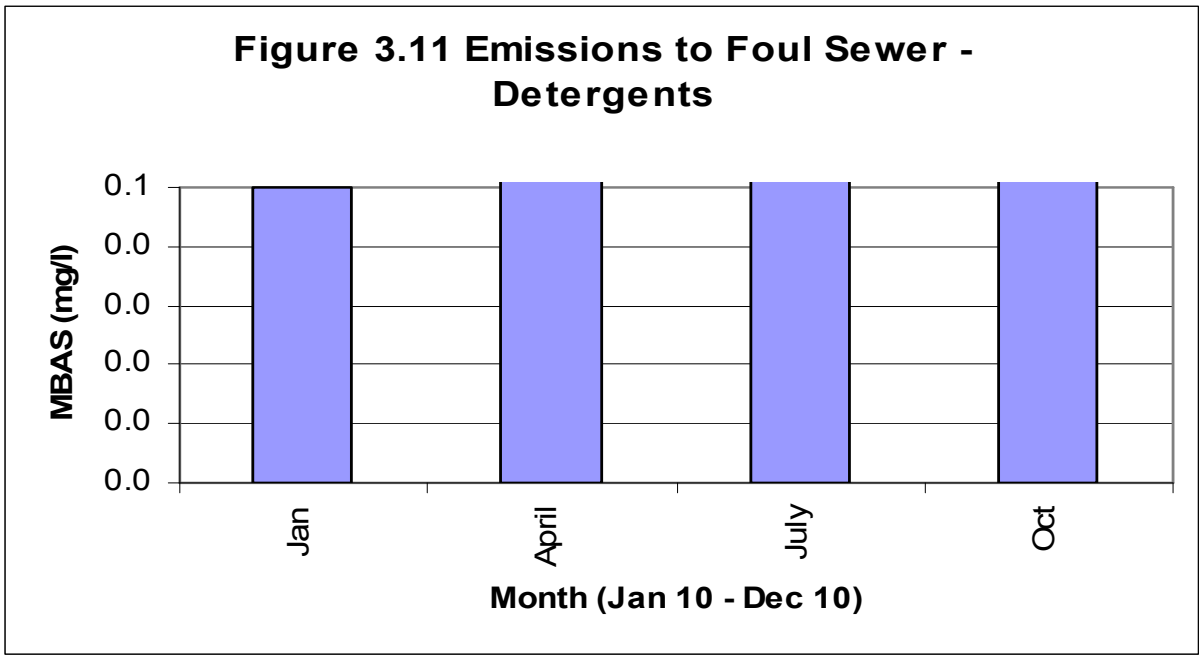

Figure 3.11 Emissions to Foul Sewer – Detergents (ELV 100mg/l)

(Detergents detectable limit: <0.05mg/l)

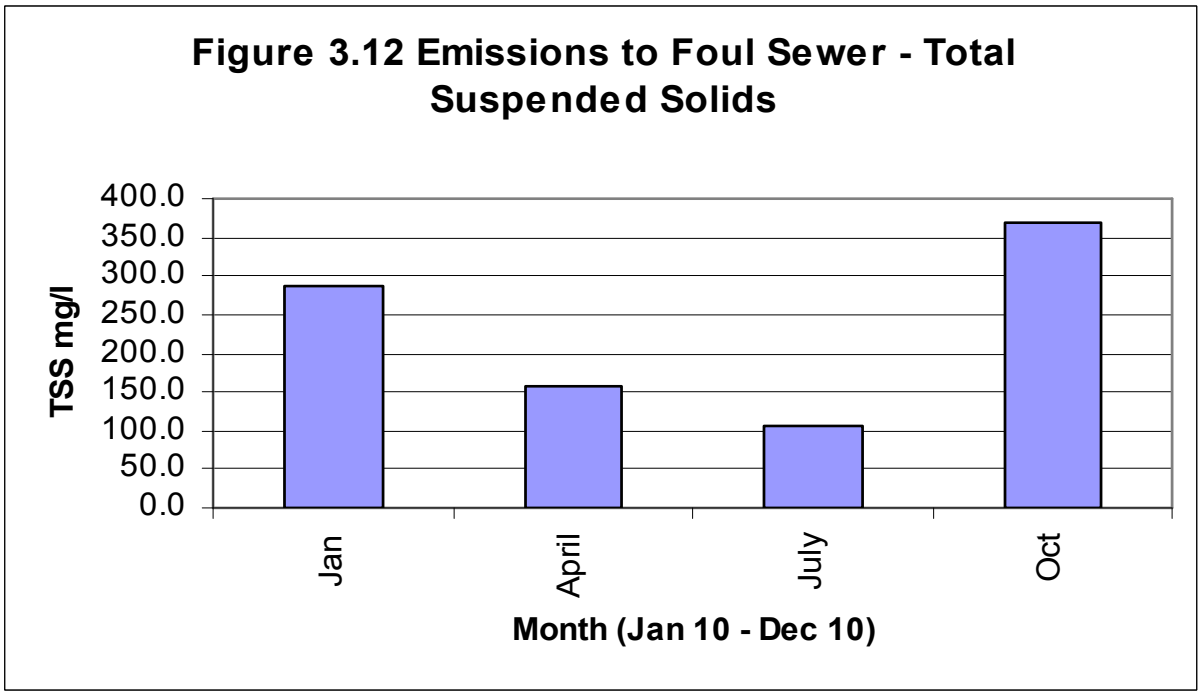

Figure 3.12 Emissions to Foul Sewer - Total Suspended Solids (ELV 2,000mg/l)

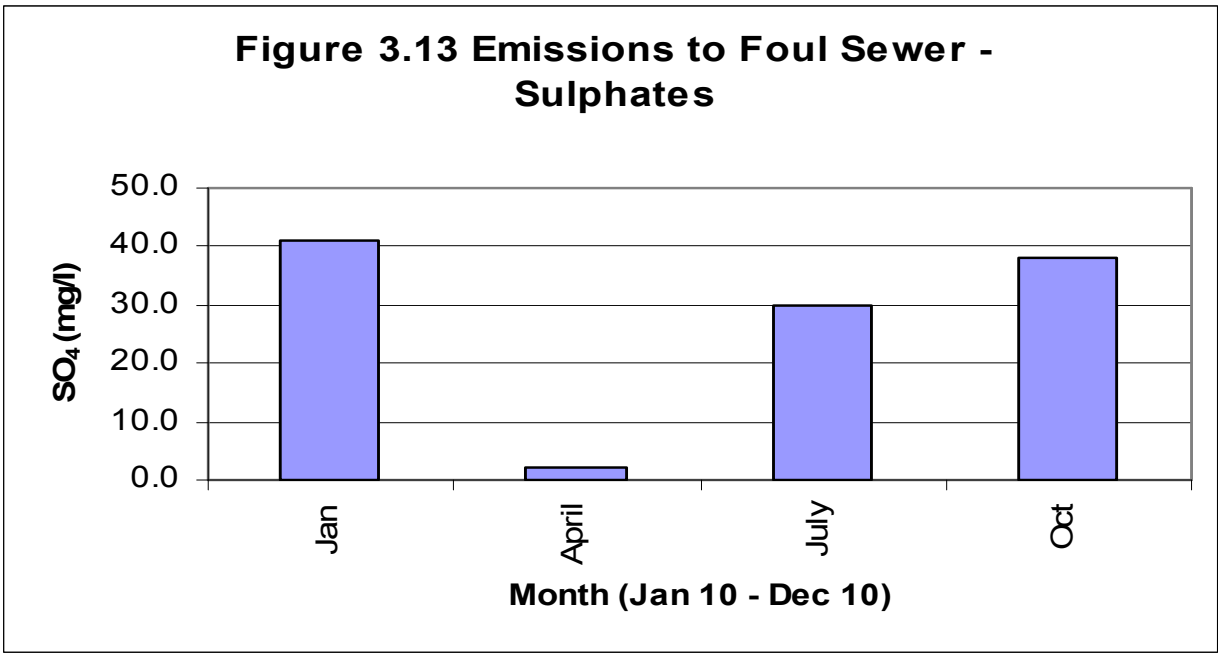

Figure 3.13 Emissions to Foul Sewer – Sulphates (ELV 500mg/l)

3.4. Noise

Noise Monitoring was carried out on 14th of September 2010. Monitoring was done for both night and day. Noise monitoring results are presented below in Table 3.2.

Location	Point Location NG Ref.	Sound Pressure dB(A) $L(A)_{EQ}$	$L(A)_{10}$	$L(A)_{90}$
Daytime				
N1				
	Boundary	60	62	53
N2	Boundary	54	55	51
N3	Boundary	54	54	50
N4	Boundary	56	59	46
N5	Nearest NSL	62	66	55
Night-time				
N1				
	Boundary	44	43	32
N2	Boundary	34	35	32
N3	Boundary	32	32	29
N4	Boundary	35	35	30
N5	Boundary	39	40	30

Table 3-2 Noise Monitoring Results Summary

NSL = Nearest Noise Sensitive Location.

The site boundary noise limits specified in the licence are that of 55dB(A) daytime and 45dB(A) night-time.
The results presented in Table 3.2 indicate that these limits were exceeded at three of the monitoring points during daytime and night-time monitoring.
Levels of noise attributed to neighbouring industrial facilities and Road traffic from the Greenhills road. This road is busy both during the day and night.
During the day and night-time survey elevated noise levels from high volumes of traffic movements on the Greenhills and Ballymount Roads contributed to the readings recorded at N2, N3, N4, N5 and to a certain degree at N1. General background sources from the surrounding industrial sites also contributed to the noise levels recorded.
During the daytime survey the Rehab Glass Recycling facility contributed greatly to the elevated noise levels recorded at N1, N2, N4 and to a certain degree at N3. During brief durations of low traffic flow on the Greenhills Road, the Rehab Glass Recycling site, unlike during previous surveys, was not audible at N5.
Overall it can be concluded that the recorded noise levels indicate a breach of the limits as set-out in the waste licence. However due to the relatively close proximity of monitoring locations to the Greenhills and Ballymount Roads the noise levels exceed the day-time 55 at N1, N4 and N5. There were no exceedances of the night-time 45dB(A) limit. This suggests that the site does not exceed limits due to on-site activities but exceeds rather as a result of the existing noise climate that already exists at sensitive locations. The glass recycling operations at the Rehab Recycling facility was also a major contributor to elevated noise levels recorded at a number of the monitoring locations. It must also be noted that the site is located within a busy industrial estate and the existing ambient noise climate is already above the threshold limits.

3.5. Dust and Air Quality Monitoring (PM10)

Dust monitoring was carried out during March to August 2010. PM_{10} monitoring was carried out during September 2010. Monitoring occurred at three locations during the reporting period and was in full compliance with Condition 8.1. The monitoring established the impact of site operations on localised Air Quality. Results of this monitoring are presented in Table 3.5. The Dust results for D1, D2 and D3 are in compliance with guideline limits values (TA Luft Dust- 350 mg/m^2/day). PM_{10} results are also in compliance with guideline limits (EC/1999/30 PM_{10}- 50 ug/m^3).

Monitoring Location	Dust March (mg/m^2/ day)	Dust May. (mg/m^2/ day)	Dust Aug. (mg/m^2/ day)	PM10 (ug/m3) Sept 2008
D1	185	100	116	42
D2	71	257	178	46
D3	142	183	213	38

Table 3-3 Dust and PM10 Monitoring Results

3.6. Odour Monitoring

Table 3.4 sets out the results for odour concentrations from direct stack monitoring of the odour control system.
Direct monitoring of the odour abatement stack allows for the assessment of the performance of the odour control system. The system is monitored for mechanical performance, volumetric airflow rate (EN13248-1:2002), static pressures (ISO10780:1994), odour threshold concentration (EN13725:2003) and PID VOC's (USEPA TM21A) to assurances to that the odour control system is achieving adequate performance to prevent odours causing impact beyond the site boundary. The gathered odour is inputted into a dispersion model (AERMOD Prime 07026) with 10 years of meteorological data (Dublin 1997 to 2006 inclusive), which allows for the assessment of the odour control system in accordance with Irish and UK EPA requirements and guidelines (odour isopleths of less than or equal to 3.0 Ou_E/m^3 at the 98^{th} percentile of hourly averages for 10 years of meteorological data).

Outlet 1 & 2 Sample Average Period	Outlet Threshold Concentration Ou_Em^{-3}	Volumetric Air Flow Rate (m^3s^{-1})	Odour Emission Rate From Carbon Filtration System Ou_Es^{-1}
March	325	23.18	7,525
June	229	22.87	5,232
September	256	22.75	5,829
December	299	22.95	6,857

Table 3-4 Odour Concentrations.

3.6.1. Interpretation of Monitoring Results

3.7.1 Surface Water Background Monitoring and Emissions to Surface Water

The background surface water monitoring results indicate that the levels of analyses detected downstream of the facility did not exceed the values detected upstream in 2010.

Sample collection and analysis of surface water emissions was carried out on one occasion during the reporting period due to a lack of rainfall events, results show an elevation in COD, BOD and an exceedence of the allowable limit of Suspended Solids at SWE1A. Analysis of SWE1B was not undertaken for the period due to a lack of rainfall events. Future samples of surface water will be taken by council staff during adequate rainfall events to insure complete analysis.

3.7.2 Emissions to Foul Sewer

There was one exceedence of the ELVs in Schedule C.4 of the Waste Licence was recorded over 4 sampling events.

3.7.2.1 pH

pH results were typically neutral to alkaline during the reporting period, with results in Ocober reporting elevated alkaline levels..

3.7.2.2 Temperature

Temperature was recorded only once during the reported period. The temperature recorded was within the specified limits as set out in Schedule C.4 of the Waste Management Licence. The temperature recorded for this reporting period was 15.0^{o}C compared to previous year's average figure of 11.0^{o}C.

3.7.2.3 Biochemical Oxygen Demand

No exceedence occurred during the monitoring period. The maximum and minimum BOD levels were recorded at 981 mg/l and 280 mg/l respectively. The average BOD level was 490 mg/l, up on last years figure of 449mg/l.

3.7.2.4 Chemical Oxygen Demand

All levels measured during the reporting period were compliant with the Emission Limit Value as set out in the Waste Licence W0003-03. The levels ranged from 2100 mg/l to 556 mg/l.

3.7.2.5 Ammonia

No exceedence was reported during the previous reporting period. The Average level was 14.02 mg/l. The maximum level was measured at 28 mg/l.

3.7.2.6 Total Suspended Solids (TSS)

No exceedence was reported during the previous reporting period. Average levels were 230 mg/l which was higher than last years figure of 106 mg/l.

3.7.2.7 Oils Fats and Grease (OFG)

One recorded value of 184mg/l during the reporting period was non compliant with the Emission Limit Value as set out in the Waste Licence 0003-03. The average level recorded for the year was 63 mg/l.

3.7.2.8 Detergents

As with the previous reporting year, all samples for this period indicate compliance with the ELV for detergent emissions to foul sewer. The levels throughout the period recorded less than 0.05 mg/l.

3.7.2.9 Sulphates

All samples for this period indicate compliance with the ELV for detergent emissions to foul sewer. The average levels recorded for this reporting year was 28 mg/l, which is down on last year which recorded an average of 56mg/l respectively.

3.7.3 Noise

The results presented in Table 3.2 indicate that daytime and night-time noise levels recorded limits that were exceeded at three of the monitoring points during daytime and night-time monitoring.

Road traffic was the dominant source of noise ($L(A)_{10}$) at all of the locations, which primarily emanates from the busy Greenhills Road which adjoins the site. The activities at the adjoining glass recycling facility are noted as the predominant noise source at N1 during the day.

These results indicate that the facility has no significant impact on the surrounding environment. There was no complaints received at the baling station for noise nuisance.

3.7.4 Dust and Air Quality Monitoring (PM_{10})

The results presented in Table 3.3 indicate that the TA Luft limit for dust deposition (350mg/m^2/d) was not exceeded during the reporting period at monitoring locations (D1-D3).

One set of monitoring results was obtained for PM_{10} levels at locations D1-D3. None of the results for PM_{10} exceeded the Emission Limit Value as set out in the Waste Licence 0003-03

3.7.5 Odour Monitoring

Direct Odour monitoring of the abatement stack was carried out on a quarterly basis during the reporting period.
To support daily odour inspections carried out by the Environmental Manager or suitably qualified person, quarterly odour monitoring was initiated. Independent monitoring consultants conduct monitoring at the facility. On completion of the monitoring, a report is issued assessing the impact of the operation on its environs. The assessments are presented in the form of odour concentration contours produced using US EPA approved dispersion modelling techniques.
All direct stack odour threshold concentrations had an average range between 325 OU_E/m^3 229 OU_E/m^3 for the reporting period 2010.

Three complaints were received at the facility during the reporting period. No distinct odours were detected within the vicinity of the period throughout the year. All ambient air concentrations of TVOC represented characteristics of traffic based emissions.

4. SITE DEVELOPMENT WORKS

Works undertaken to, at a minimum, comply with the Licence conditions during the reporting period are summarised in Table 4.1.

Requirement	Time Scale
Erect storage facility for WEEE	Not Achieved
Further expansion of recycling facilities at the Civic amenity Site by increasing waste acceptance type.	Achieved.
Resurface WRA floor	Not Achieved
Divert surface water to foul	Not Achieved

Table 4-1 Site Development Works during Reporting Year

Requirement	Time Scale
Erect storage facility for WEEE	November 2011
Installation and investment to a waste compaction system	May 2011 .
Resurface WRA floor	December 2011.
Divert surface water to foul	December 2011

Table 4-2 Site Development Works for the Forthcoming Year

5. WASTE RECEIVED BY AND CONSIGNED FROM THE FACILITY

5.1. Wastes Baled

5.1.1 Waste Composition

Waste accepted at the Baling Centre is Municipal Solid Waste (MSW) from Dublin Corporation, South Dublin County Council, as well as non-recyclable waste from the Civic Amenity Facility. The quantities of waste accepted at the baling centre are summarised in Table 5.1.

Sources of MSW	Tonnes 10	Tonnes 09	Tonnes 08	Tonnes 07	Tonnes 06	Tonnes 05	Tonnes 04	Tonnes 03
Dublin Corporation (DCC)	89,340	103,236	119,988	135,605	139,629	141,582	144,463	146,290
South Dublin County Council (SDCC)	44,283	54,396	57,509	61,534	60,559	61,353	63,411	77,527
Civic Amenity	9,731	10,738	11,187	7,407	4,189	3,360	2,495	1,695
Other	4,685	5617	8,946	43,617	62,847	72,518	65,694	72,080
Total	148,039	173,987	197,632	249,986	267,225	278,814	276,063	297,592

Table 5-1 MSW Quantities into Facility

The composition of accepted waste is estimated from a waste composition survey carried out on household waste in Dublin City between 1996 and 1997. This MSW accounts for the majority of waste accepted (approx 80%) at the facility. The results for the survey are presented in the Appendix, which also includes a table of figures for urban household waste characterisation presented in the Agency's 1998 National Waste Database, published in March 1998.

5.1.2 Baled Waste Quantities

Monthly quantities of baled waste sent to Landfill (Licence Reg. 4 – 1) are shown in Figure 5.1.

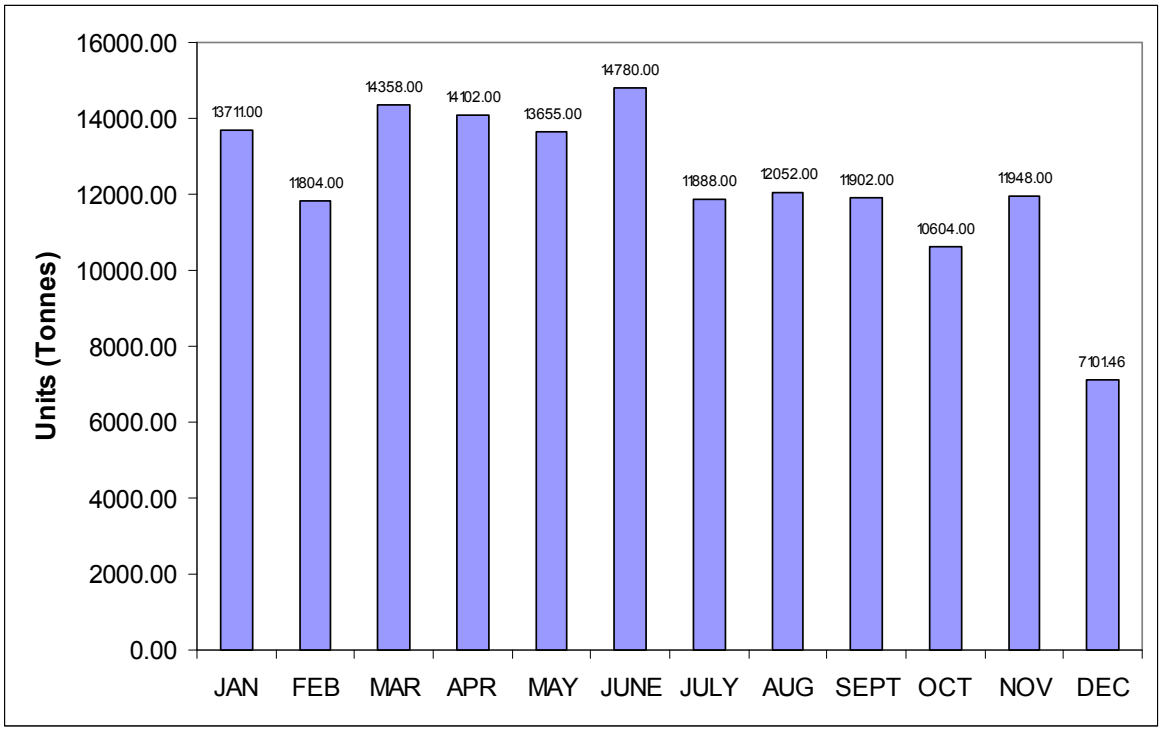

Figure 5.1 Monthly Waste Quantities to Landfill 2010

5.2. Civic Amenity

5.1.2 Waste Composition to Civic Amenity

The Civic Amenity Facility is a waste deposit facility for recyclable and non-recyclable waste delivered by members of the general public. Receptacles are provided for the deposit of glass, textiles, plasterboard, rubble, household hazardous, waste oil, paper, green waste, waste oil, batteries, beverage cans, plastics, scrap metal and white goods/ electrical items. Quantities of each of these wastes received are shown in Table 5.2 and Figure 5.2.

Bulky waste referred to in Table 5.2 consists of waste, which due to its bulky nature is unsuitable for baling. This waste typically is consists of furniture, timber and mattresses, in general, materials that cannot be compacted to produce physically stable bales.
Bulky waste was collected in bins at the Civic Amenity and is shredded prior to being added to waste for baling and referred to in table 5.2

Description	Tonnes 2010	Tonnes 2009	Tonnes 2008	Tonnes 2007	Tonnes 2006	Tonnes 2005	Tonnes 2004	Tonnes 2003	Tonnes 2002
Glass	103.94	118.54	135.81	168.08	149.84	105.55	71.04	23.05	15.62
Paper	51.62	51.68	68.67	117.06	104.54	138.78	155.59	94.37	73.57
Textiles	29.62	40.18	37.73	41.66	52.45	25.32	21.85	0.66	6.19
WEEE	855.38	873.90	882.53	662.25	740.20	590.9	289.96	165.49	65.66
Plastic	18.04	9.64	33.66	80.31	46.00	48.62	23.73	8.33	3.23
Waste Oil	36.72	26.86	47.9	32.30	35.82	34.7	38.06	29.22	27.39
Green waste	2,307.12	1850.06	1,454.58	1384.91	889.22	801.21	759.48	539.2	441.62
Batteries	21.06	23.72	27.36	57.02	66.16	36.46	25.04	12.16	12.55
Beverage cans	1.41	1.31	2.85	2.82	5.49	4.71	7.52	1.37	1.53
Metal	440.55	447.20	513.64	502.42	392.41	431.68	459.50	333.76	340.71
Waste to baling station for baling	3653.84	3238.16	3722.62	7407.09	4189.2	3,360.2	2,492.0	1,694.6	1,748.8
Bulky waste	6,077.04	7499.35	7464.49	1365.3	8310.6	5,549.2	3,016.0	2,410	3,242.5
Household Hazardous	24.9	29.32	45.2	85.00	43.66	28.57	N/A	N/A	N/A
Polystyrene				0.98					
Plasterboard	41.76	46.16	61.55	31.23					
Rubble	724.66	655.48	777.57	781.31					
Cardboard	230.2	232.49							
Waste Edible Oil	.60	0.74							
Wood	140.06	336.76							
Ink Cartridges	0.36	0.20							
Gas Cylinders	4.46	5.82							
Metal Packaging	0.92								
Total Civic Amenity	14,764.08	15,487.57	15,276.1	12,719.7	14,973	11,156	7,359	6,173	6,328

Table 5-2 Composition of Waste Received at the Civic Amenity Facility

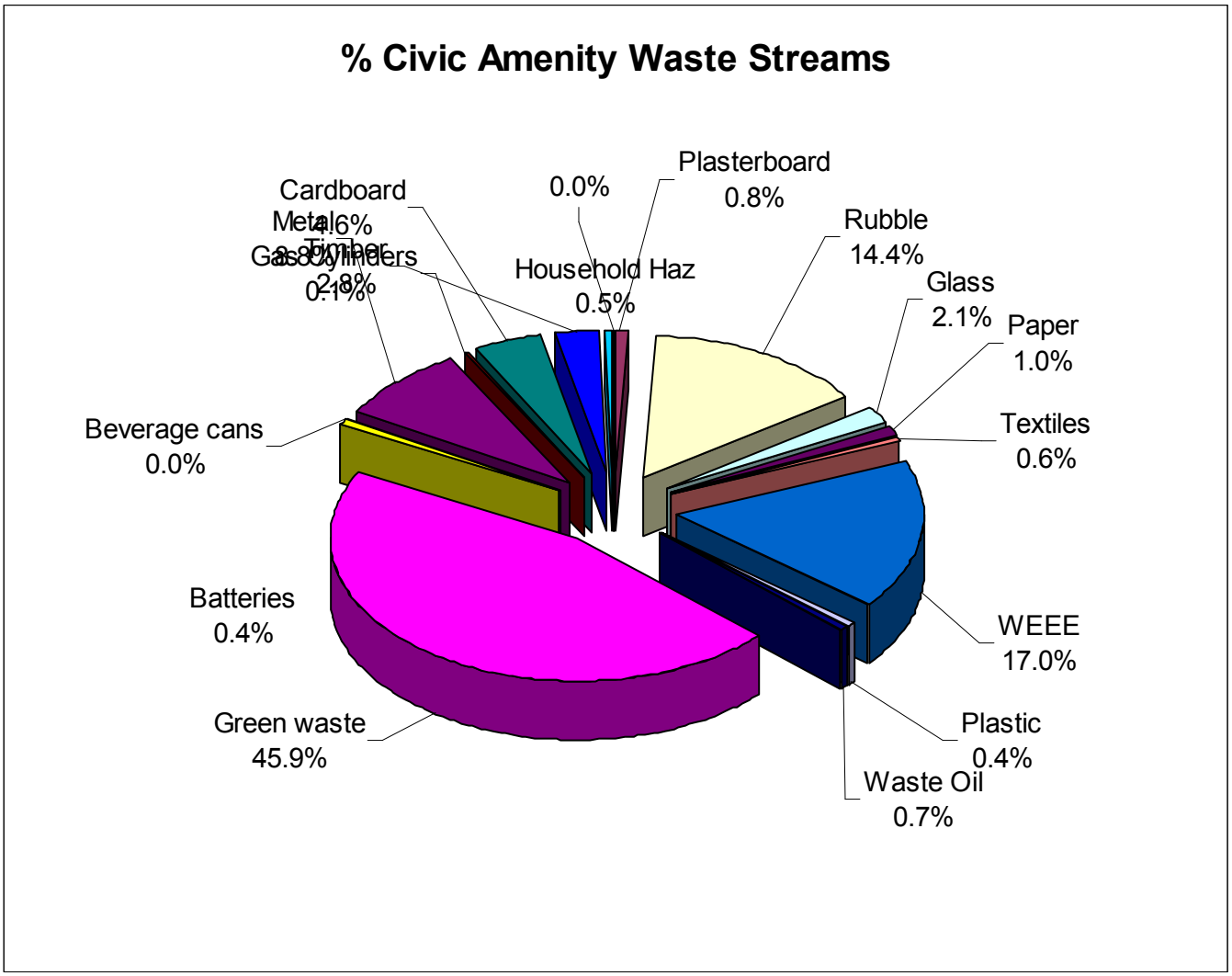

Figure 5.2 Recyclable Waste Types Received at the Civic Amenity Facility

5.3 Waste Received and handled

Waste received at the baling facility during the reporting period amounted to 148,039 tonnes, which is 176,411tonnes below the Licence limit of 324,480 tonnes per annum

The following figure is a summary of the waste movements to and from the facility. Small differences in quantities entering and leaving the site are due to the 4% allowed tolerance error on the weighbridge (Class III accuracy: Source EN45501: 1992).

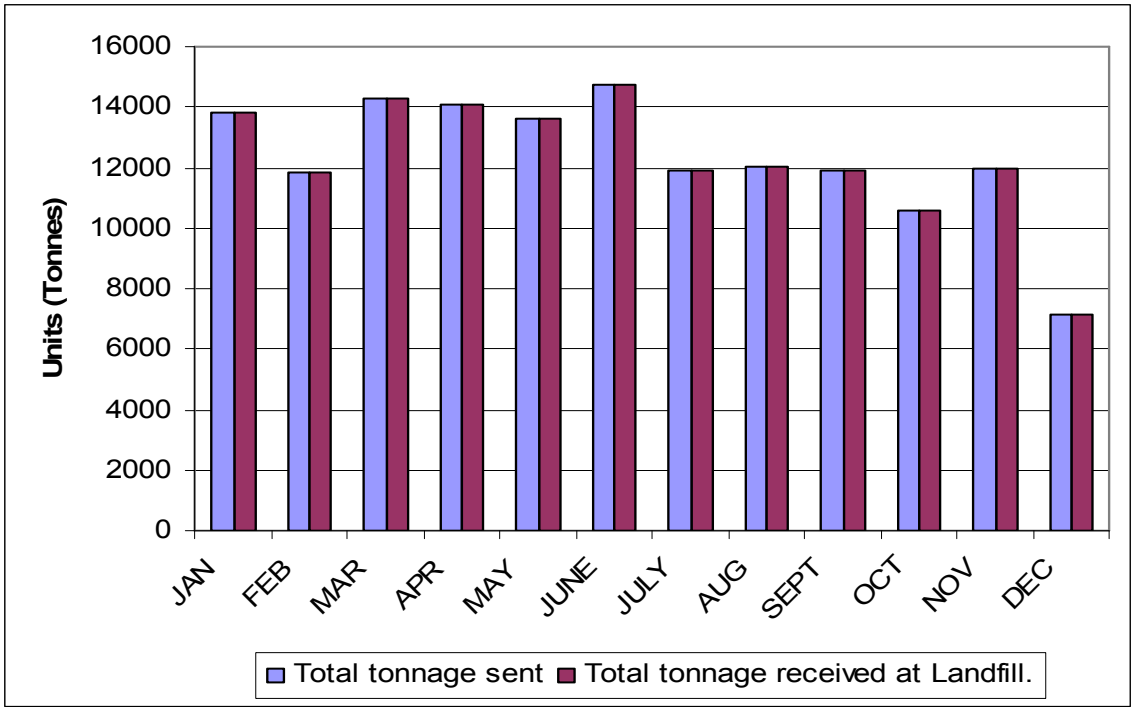

Figure 5.3 Tonnage Received and Sent in 2010 to the Baling Station and to Landfill

6. NUISANCE CONTROL

6.1. Odour Control

Historically odour was the largest source of nuisance for the facility resulting in 100% of all complaints received at the facility.

6.1.1. Daily Odour monitoring

In compliance with Condition 10.3 of the Waste Licence, a daily odour inspection of the facility environs is carried out and staff of the Council's Environmental Services Department keeps a written and electronic record.

6.1.2. Quarterly Odour Monitoring

In Compliance with Schedule D.6 of the Waste Licence, an independent contractor carries out quarterly odour monitoring.

6.1.3. Odour Emission control system

The in-situ odour emission control system which is a dry dust filtration and annular bed carbon filtration system was installed in January 2008. The dry dust filtration and annular bed carbon filtration system replaced the existing bio filtration system. The annular carbon filtration unit provides improved guaranteed odour removal efficiencies and also provide an increase in treatment capacity for the facility.

- Increased design treatment capacity of approximately 25,000 m3/hr and a maximum increased treatment capacity of up to 30,000 m3/hr.
- Increased odour threshold concentration performance to 300 OuE/m3.
- Continuous performance independent of cyclic odour loading.
- Elimination of dust and particulate plugging of the bed medium through the use of a regenerative self-cleaning dust filtration plant.

6.2. Litter Control

In compliance with Condition 7.4 of the Waste Licence, the licensee removes any litter in or around the facility immediately. An Iveco 130E15 watering/sweeping machine is present on site at all times. No complaints were received at the baling station for litter nuisance.

6.2. Dust Control

In compliance with Condition 7.6 of the Waste Licence, in dry weather the roads and hard standing areas are sprayed with water as and when required. No complaints were received at the baling station for dust nuisance.

6.3.1. Dust Monitoring

In Compliance with Schedule D.6 of the Waste Licence, an independent contractor carries out dust monitoring three times a year.

7. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

7.1 Incidents Summary

Condition 11.2 of the Waste Licence requires that the licensee shall make written records of the environmental incidents. No incidents were recorded during the reporting period.

7.1. Complaints Summary

There were three complaints received from local residents or commercial interests during the reporting period.

7.2. Corrective Action

7.2.1. Surface/Foul water emission non compliance

- The foul water treatment system service was carried out in August 2010, where a sprocket and chain was fitted. The screen was fully cleaned and serviced. All monitoring equipment was serviced and calibrated.
- All interceptors emptied and cleaned when required and at a minimum of every two weeks by licensed contractors. The surface water drainage system is cleaned every quarter.
- Surface water drainage network to be diverted to foul network by December 2011.

7.1.1 Fast Acting Doors.

- All 6 doors into the baling shed and waste reception area comprise of fast acting roller shutter doors.
- Air curtains are installed to door at the waste reception to prevent odours escaping when doors are in operation.
- Door contractor is contracted to work on the door on the same day.
- Complete set of spares for both size doors on site.

7.3.3 Odour

- An activated carbon odour control unit is in place to treat malodorous air.
- Daily odour inspections conducted.
- Quarterly Odour monitoring conducted by independent consultants.

7.3. Non-Compliance Summary

A total of 4 non-compliances were received at the facility during the Reporting period:

- 1No. Non compliance of Condition 6.6.2 *Surface water Emission limits*
- 1No. Non compliance of Schedule C.4 *Emission to Sewer limits*
- 1No. Non compliance of Condition 10.5 *Waste Records*
- 1No. Non compliance of Schedule C.4 *Emission to Sewer limits*

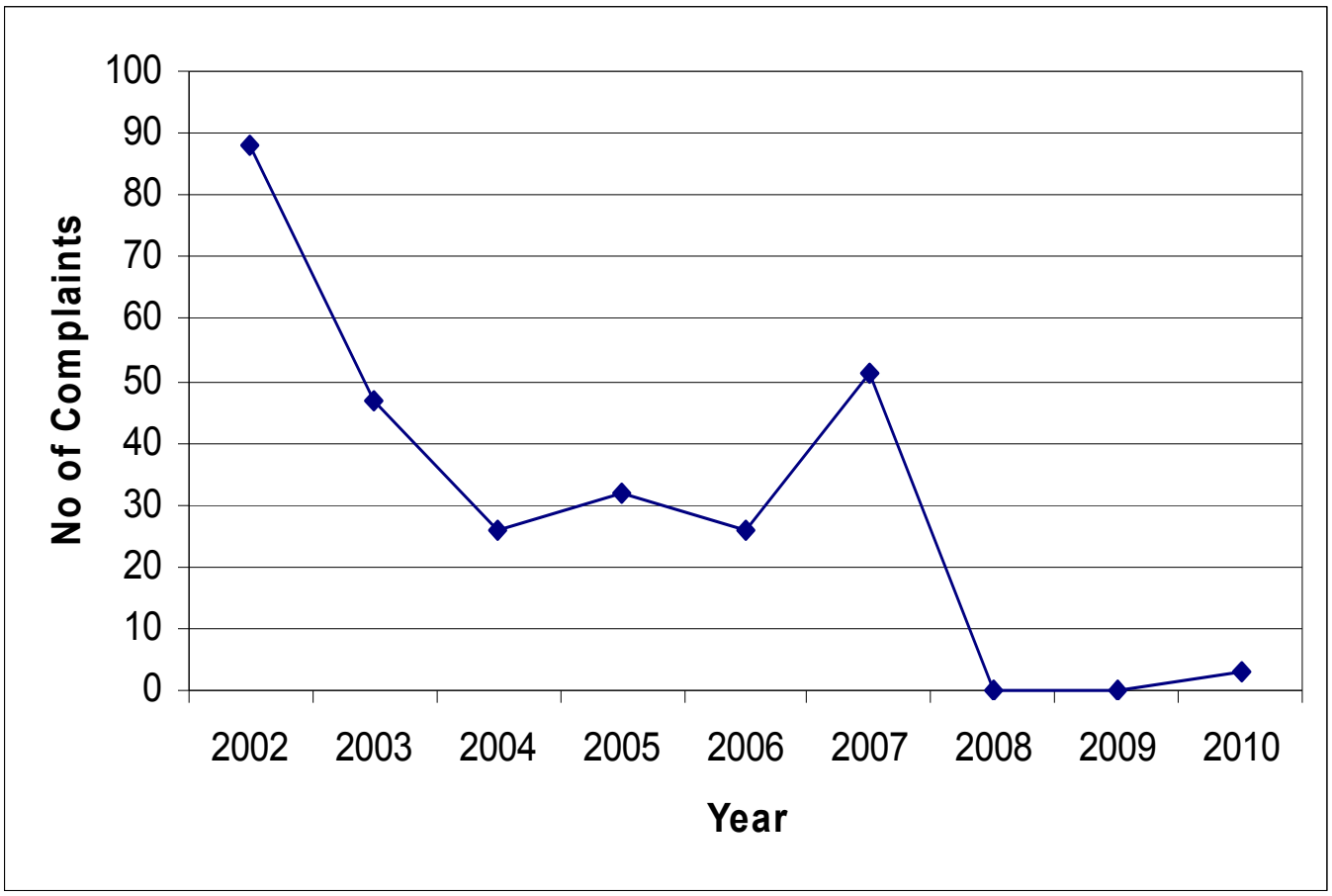

Figure 7.1 Number of Complaints

8. ENVIRONMENTAL MANAGEMENT PROGRAMME

8.1. Report

In compliance with Condition 2.3 of the Waste Licence, a review was carried out of the Environmental Management Plan (EMP); the reviewed EMP was submitted to the Agency for agreement on the 31st March 2011.
Site operational procedures are described in the EMP.
The schedule of Environmental Objectives and Targets for the reporting year, and a proposal for the forthcoming year, are summarised below.

8.1.1. Schedule of Environmental Objectives and Targets

A detailed Schedule of Environmental Objectives and Targets for the reporting period is presented in Table 8.1.

8.1.2. Achievement of Environment Objectives and Targets

In all cases the Council has made significant efforts to achieve all of the targets set by the individual objectives. Not all targets were achieved within the reporting period but corrective measures were put in place when difficulties were encountered. A summary of the targets achieved is presented in Table 8.1.

The overall responsibility for achieving these objectives and targets lies with the Senior Engineer of South Dublin County Council and Managing Director of Greenstar. Items referred to within these objectives are site specific and are the combined responsibility of the Council's Environmental Manager and Greenstar's Facility Manager

Objective/ Target	Description	Status
Objective 1	**To ensure continued implementation of the environmental Policy**	
Target 1.1	Continue to conduct Environmental Training refresher course for all Baling Station Staff.	Achieved- Ongoing.
Target 1.2	Manual Handling Training	Achieved
Target 1.3	Forklift Training	Achieved
Objective 2	**To promote public awareness of the facility and encourage use of the civic amenity/recycling facilities**	
Target 2.1	Further expansion of recycling facilities at the Civic Amenity Facility by increasing the number of waste	Achieved

Target 2.2 Target 2.3	types accepted for recycling. To hold an open day for the facility where members of the local community will get a guided tour of the facility and its operations Provide a specific web site for Ballymount detailing all services, costs & destination sites.	Achieved Not Achieved
Objective 3	**To Continue site development/improvement**	
Target 3.1 Target 3.2 Target 3.3	Develop Tetrapak recycling. Painting of Civic Amenity Develop oil filter recycling	Not Achieved Achieved Not Achieved
Objective 4	**To minimise the environmental impact arising from nuisance caused by the facility**	
Target 4.1 Target 4.2	Reduction of water consumption Decrease in the use of electricity	Achieved. Achieved
Objective 5	**To comply with Emission Limit Values in Schedule E of Waste Licence**	
Target 5.1	Reinstall Bio-Tubes to all interceptors to reduce OFG levels. To divert all facility surface water to foul drains through a flow attenuation tank. Install new Dust Filter Cartridges in odour control system Replace Activated Carbon in odour control system. Full service on WWTP. Repalce floor in Waste Reception Area	Achieved Not achieved- Carry Forward December 2011 Achieved Achieved Achieved Not Achieved
Objective 6	**To successfully control emergencies at the facility**	
Target 6.1	Review of fire system safety management Review and update of site risk assessments	Achieved Achieved
Target 6.2	Complete reline of Balers to be implemented. Overhaul of Mayfran Conveyor A&B.	Achieved Achieved

Table 8-1 Achievement of Environment Objectives & Target

8.2. Proposal

The Environmental Objectives and Targets proposed for the forthcoming year (listed in Table 8.2) are based on the requirements of the current Waste Licence. However, should the Agency grant a revised licence within this period, the proposed schedule would in turn require revision to reflect any new conditions.

Table 8-2 Proposed Environment Objectives & Targets for 2010

Target Number	Description	Time Frame	Responsibility
Target 1.1	Continue to conduct Environmental Training refresher course for all Baling Station Staff.	Quarterly in 2011	Facil Manager
Target 1.2	Mechanicical Grab Training	1st May 2011	Facil Manager
Target 1.3	Front End Loader Training	30th May 2011	Facil Manager
Target 2.1	Further expansion of recycling facilities at the Civic Amenity Facility by increasing the number of waste types accepted for recycling.	31st October 2011	Env. Manager
Target 2.2	To hold an open day for the facility where members of the local community will get a guided tour of the facility and its operations	30th April 2011	Env. Manager
Target 2.3	Provide a specific web site for Ballymount detailing all services, costs & destination sites.	31st October 2011	Env. Manager
Target 2.4	Installation of a WEEE Shed/covered area	31st Dec 11	Env. Manager
Target 3.1	Develop Tetrapak recycling.	31st June 2011	Facil Manager.
Target 3.2	Painting of Civic Amenity	31st Aug 2011	Facil Manager
Target 3.3	Develop oil filter recycling	30th April 2011.	Env. Manager
Target 4.1	Reduction of water consumption	31st Dec 11	Facil Manager
Target 4.2	Decrease in the use of electricity	30th Dec 11	Env. Manager
Target 4.3	Decease hydraulic oil use	30th Dec 11	Facil Manager
Target 4.4	Elimination of Baling Wire	30th Dec 11	Facil Manager
Target 5.1	Reinstall Bio-Tubes to all interceptors to reduce OFG levels.	30th Apr 2011.	Env. Manager.
	To divert all facility surface water to foul drains through a flow attenuation tank.	31st Dec 2011.	Env. Manager
	Install new Dust Filter Cartridges in odour control system	30th Oct 2011.	Env. Manager
	Replace Activated Carbon in odour control system.	31st May 2011.	Env. Manager
	Full service on WWTP.	31st Aug 2011.	Env. Manager
	Replace floor in Waste Reception Area	31st Dec 2011.	Env. Manager
Target 6.1	Review and update of site health and safety plan and site risk assessments	31st July 2011	Greenstar Safety Rep.
Target 6.2	Installation of 2 new conveyor lines and static compaction systems	30th April 11	SDCC Env. Manager

Operational and Environmental Procedure

Documented operating procedures for the Baling Centre, which are described in detail in the Environmental Management Plan are sub-divided as follows: -

- Standard Operating Procedures
- Environmental Procedures
- Emergency Response Procedures

A brief summary of these is provided below.

8.1.3. Standard Operating Procedures

Standard Operating Procedures have been developed for each of the routine operations conducted at the facility. The purpose of these is to ensure that routine tasks are carried out in the same manner each time they are undertaken, even if different operators perform them. Their implementation will encourage quality as well as safe work practices. Regard is also had for the site specific Safety Statement when carrying out any operations at the facility.

The routine operations identified are as follows:

- SOP 001- Weighbridge operation
- SOP 002- Waste Acceptance at the Baling Centre and Civic Amenity Facility
- SOP 003- Baling of waste
- SOP 004- Loading and shunting of containers
- SOP 005- Environmental Monitoring;
- SOP 006- Housekeeping;
- SOP 007- Operation Of Odour Control System
- SOP 008- Operation/Maintenance Of Wastewater Treatment Works
- SOP 009- Opening/Closing Of Waste Reception Shutters
- SOP 010- Weekly Drainage Inspection
- SOP 011- Fuel Storage and Pollution Control Inspection
- SOP 012- Weekly Interceptor Inspection
- SOP 013- Monthly Over ground Inspection Form
- SOP 014- Emergency Generator Operation/Maintenance
- SOP 015- Nuisance Inspection

8.3.2. Environmental Procedures

Environmental procedures have been developed in order to maintain the Environmental Management System and to ensure continued improvement in the operation and management of the facility. Environmental Procedures are subject to change on evaluation.
The Environmental Procedures are as follows:

- EPROC 001- Corrective Action Procedures
- EPROC 002- Awareness and Training Procedures
- EPROC 003- Incident Response and Reporting Procedures
- EPROC 004- Complaints Procedures

8.3.3. Emergency Response Procedures

Condition 10.1 of the Waste Licence requires that a written Emergency Response Procedures (ERP) be submitted. An updated document describing these procedures was submitted to the Agency September 2002 as part of the Environmental Management Plan annual submission. Emergencies have been defined as unexpected events, which prohibit the baling operation or reduce baling capacity, or any occurrence resulting in non-compliance with the conditions of the Waste Licence. Potential emergencies at the facility can be grouped under the following headings: -

- Inability to process waste.
- Inability to transport baled waste to Arthurstown Landfill.
- Threats to staff health and safety.
- Threats to the environment.

The ERP document, which is maintained in the facility office, contains detailed procedures and a list of emergency contact numbers to be used in the event of an emergency. A copy of the Council's "Major Emergency Plan" is also maintained in the facility office.

8.3. Management and Staffing Structure

The Council, as the licensee, operates the facility under the terms of a joint venture agreement with Greenstar, a waste management company. The organisational structure for the facility is shown in Figure 8.1.

Operations at the facility are carried out in two distinct areas, namely the Baling Centre and the Civic Amenity Facility. The Joint Venture Management Committee, the Environmental Manger, the Facility Manager and the Operations Supervisor have delegated responsibilities for operations management and supervision in both areas.

Each of the positions identified in Figure 8.1 are discussed in detail in Section 6 of the Environmental Management Plan for the reporting year. Details of the relevant experience and qualifications for each person named, as well as arrangements for absence in the case of annual leave, illness and other absences, are maintained in the facility office and have also been forwarded to the Agency as required by Condition 2.2.

A file consisting of training records for each employee is also maintained in the facility office.

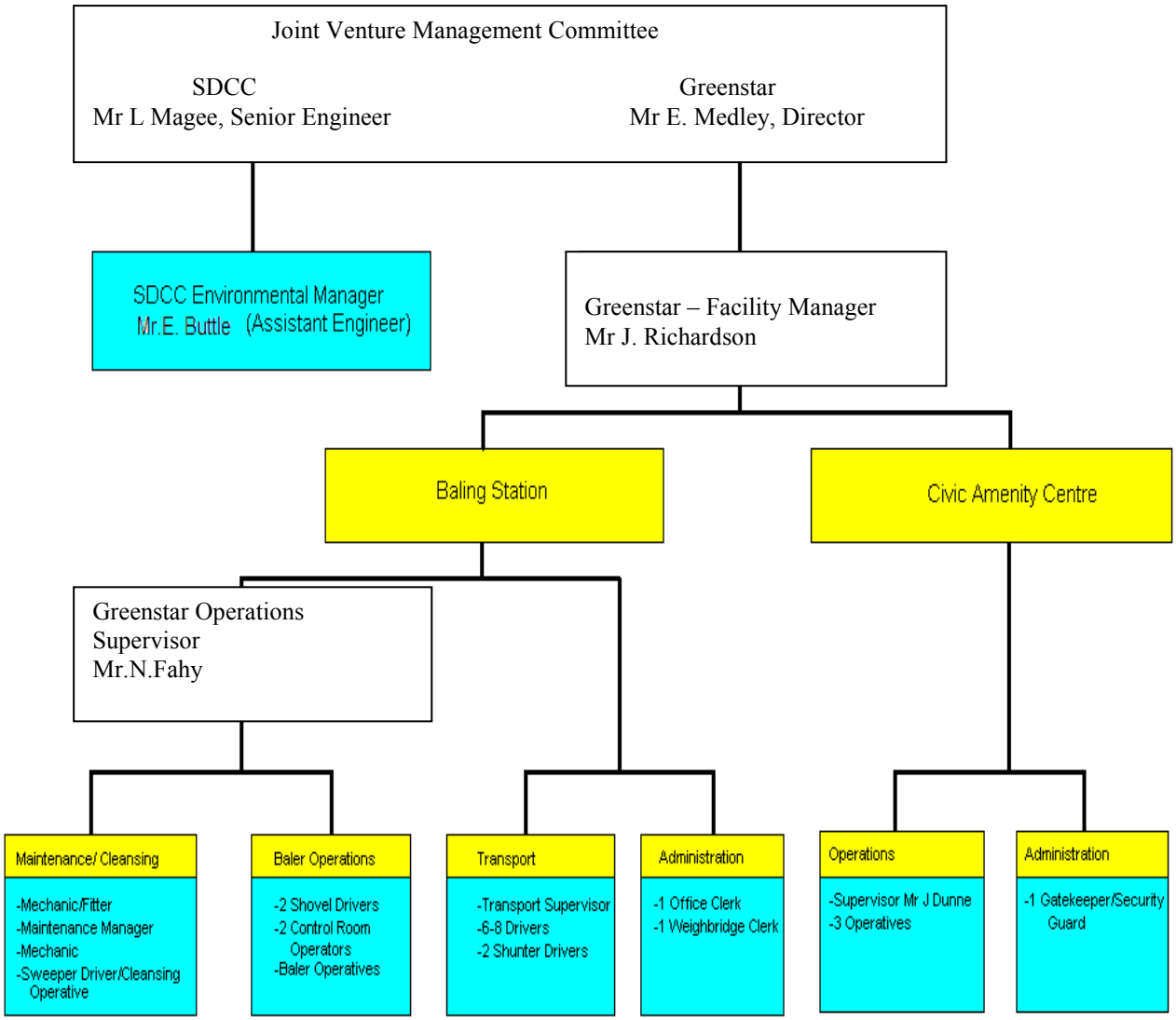

Figure 8.1 Management and Staffing Structure

9. TANK AND BUND TESTING

Condition 3.13.5 of the Waste Licence requires that tank and bund testing be carried out once every three years. All Bunds on-site were tested to BS8007: 1987, in May 2009. At the end of 2010 reporting period all 27 onsite Bunds met the requirements.

10.RESOURCE CONSUMPTION SUMMARY

Resources consumed at the facility include electricity, water, diesel fuel, steel wire, cleaning products, odour products and hydraulic oil. The principle consumers of energy at the facility are summarised in Table 10.1. Resource consumption is also presented in table 10.2 and figures 10.1 - 10.3.

Plant Item	Resource Used
Baling/ Ancillary Equipment Odour Control System Mobile Plant Road Transfer Fleet	Electricity and Hydraulic Oil Electricity and Water Green Diesel and Hydraulic Oil White Diesel

Table 10-1 Principle Resource Consumers

Resource	Quantity Used
Diesel Fuel	470,511 litres
Hydraulic Oil	4,882 litres
Electricity	1,145,350 kWh
Water	6,496 m3
Cleaning Agents Grime Away Caustic Soda Clean Air	 17,000 kg 4,800 kg 3,600 kg
Steel Wire	109.01 kg

Table 10-2 Energy and Resources (January 10 – December 10)

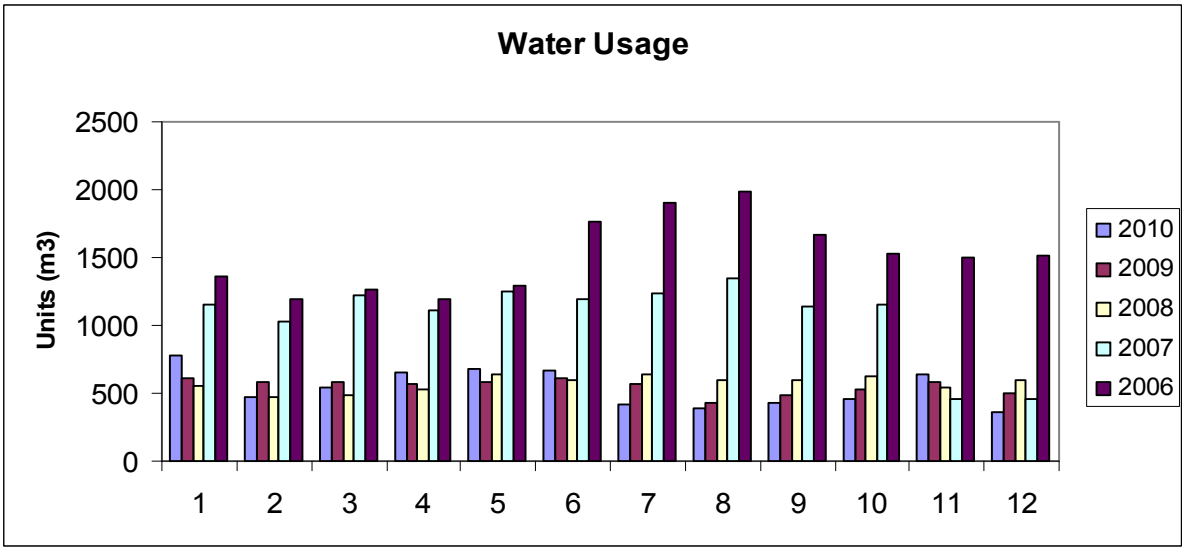

Figure 10.1 Water Use

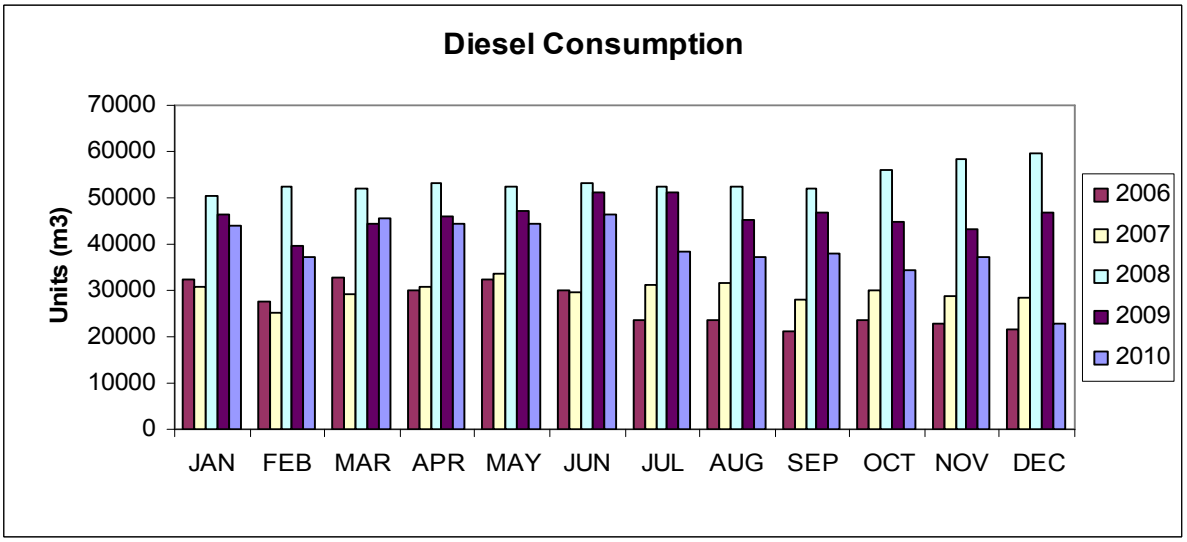

Figure 10.2 Diesel Consumption

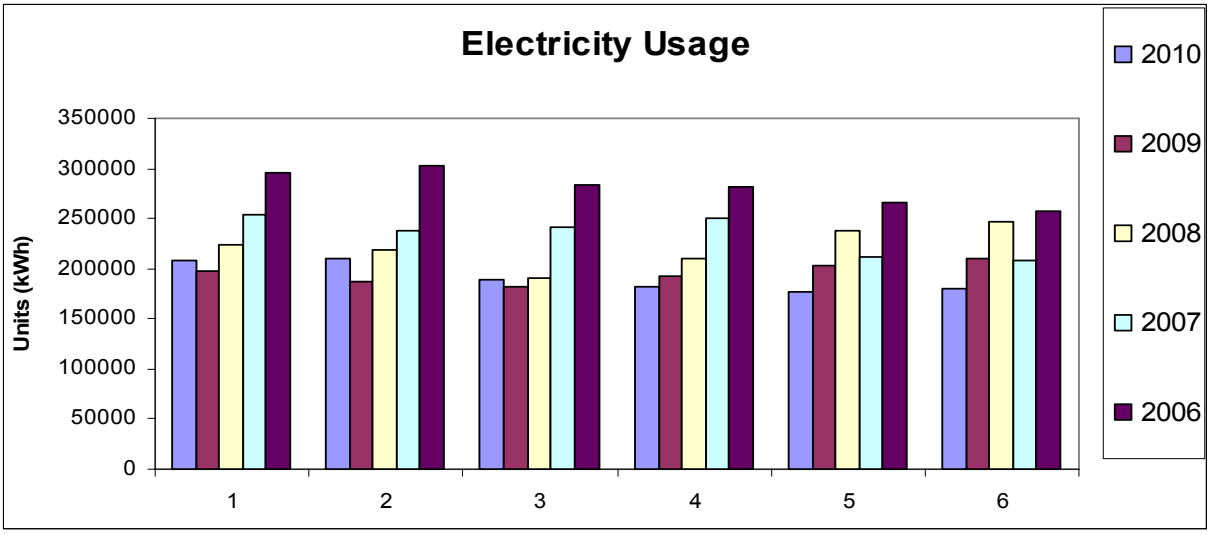

Figure 10.3 Electricity Consumption

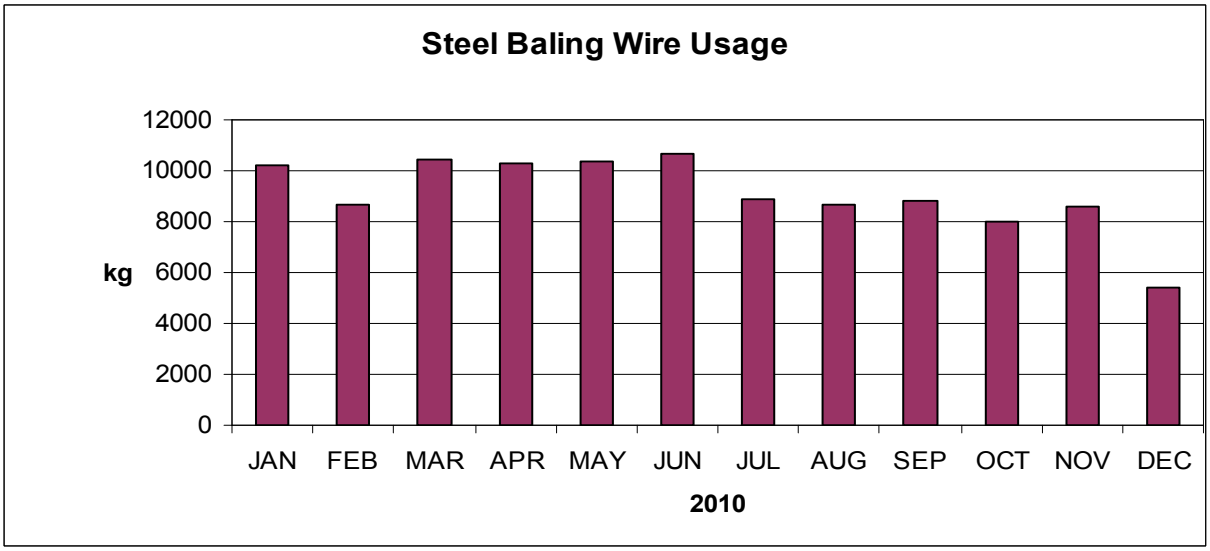

Figure 10.4 Steel wire Consumption

11.REPORT ON PUBLIC INFORMATION FILE

During the 2010 reporting period there was no application received to see the public inspection file.

Pertinent documentation available for public inspection include:

1. Environmental Record File
2. Environmental Monitoring Reports File (Volumes 1-4)
3. Complaints Register
4. Waste Licence
5. Environmental Management Plan
6. Emergency Response Procedures

Members of the public, who wish to view information describing environmental performance of the facility in 2010, can do so by phoning the facility. The facility contact numbers are posted on the main facility entrance sign. The names of the appropriate personnel are as follows:

Mr. John Richardson
Greenstar
Facility Manager

Mr. Eoin Buttle
South Dublin County Council
Environmental Manager

12. SITE OPERATIONS

12.1. Duty and Standby Capacity of Waste Handling Plant

With the introduction of licence W0003-03 the maximum quantity of municipal waste to be accepted at the facility has decreased to 324,480 tonnes. In compliance with condition 1.7 of the waste licence the hours of operation has been increased 6:30a.m. to 9:00 p.m. Monday to Saturday inclusive.

The baling capacity of the machines is 60 tonnes/hr each, which suggests an annual 100% uptime capacity of 542,880 tonnes. During this reporting period the facility was closed for 1 day at Christmas, 10 days for annual maintenance of balers, 1% time loss due to inclement weather, industrial action, accidents etc and a monthly average of less than 4% operational downtime. The quantity of municipal waste baled at the facility for the reporting period was 148,035.76 tonnes.

This suggests the Duty Capacity of the waste handling equipment was 525,480 tonnes and the Standby Capacity was 315,288 tonnes (60%) for this reporting period.

12.2. Ventilation plant capacity and Spares

The Odour emissions control system was installed 10th December 2007 on the receiving and baling areas of the facility. The unit was installed to the following performance design:

- Volume Flow Rate *100,000 m^3/hr*
- Inlet Odour Capacity *5,000 OU_E/m3*
- Outlet Odour Concentration *150 OU_E/m3*
- Temperature *Ambient*
- Relative Humidity *50-100 %*
- Stack Height *12m*
- Stack Diameter *1.6m*

Spares for the odour and emissions control system are kept on site in the western storage area, these include:

Fan Spares:

Component	No. off
Bearing set for fans	2 No.

Dustfilter Spares:

Filter Cartridge	6 No.
Diaphragms	10 No.
Solonoids	10No.

Carbon Spares: 3 Tonnes

APPENDIX

Parameter	Sample Point	SI294: 1989	Jan	April	July	Nov
pH	1(us)	5.5 - 9.0	7.8	8.2	8.1	7.8
	2(us)		7.9	8.2	8.2	7.8
	3(ds)		7.6	8.2	8.3	7.9
BOD	1(us)	7.0	4.0	<2	<2	3.0
(mg/l)	2(us)		3.0	<2	<2	2.0
	3(ds)		9.0	<2	<2	2.0
COD	1(us)	40.0	12.0	6.0	7.0	11.0
(mg/l)	2(us)		17.0	6.0	7.0	8.0
	3(ds)		33.0	7.0	6.0	8.0
Suspended Solids	1(us)	50.0	40.0	2.0	1.0	<1
(mg/l)	2(us)		38.0	1.0	6.0	<1
	3(ds)		49.0	1.0	8.0	<1
Mineral Oil	1(us)	0.01	<0.03	0.01	0.01	<0.01
	2(us)		<0.02	0.01	<0.01	<0.01
	3(ds)		<0.03	<0.01	<0.01	<0.01

Table 12-1 Surface Water Monitoring Results

*us – upstream of baling centre
ds – downstream of baling centre

Parameter	ELV	Jan	April	July	Oct
pH	5 - 10	6.7	6.8	7.1	8.5
Temp (°C)	<42oC	NR	NR	15.0	NR
BOD5 (mg/l)	10,000	280.0	358.0	341.0	981.0
COD (mg/l)	30,000	658.0	671.0	556.0	2100.0
Ammonia-NH4 (mg/l)	50	2.4	17.0	8.7	28.0
TSS* (mg/l)	2,000	288.0	158.0	106.0	370.0
OFG **(mg/l)	100	184.0	13.0	16.0	38.0
Detergents (MBAS)(mg/l)	100	<0.05	<0.05	<0.05	<0.05
Sulphates (SO4) (mg/l)	500	41.0	2.0	30.0	38.0

Table 12-2 Emissions to Foul Sewer

Sub-Category	Average %*
Food Waste	17
Yard and garden waste	17.4
Paper packaging	0.6
Newspapers and brochures	9.2
Magazines and adds on glossy paper	2.4
Other papers	7.4
Flat packaging board	2.2
Corrugated packaging board	1.2
Other cardboards	0.8
Cardboard composites packaging	1.1
Other composites packaging	0.0
Textiles	2.6
Health Care Textiles	4.0
Polyolefin films (PE and PP)	7.7
Clear PVC bottles	1.1
Clear PET bottles	0.6
Polyolefin jars and bottles	1.1
Opaque PVC jars and bottles	0.0
Opaque PET jars and bottles	0.3
Polystyrene foam packaging (PS)	0.2
Other plastic waste packaging	1.4
Other plastic waste	0.8
Wood packaging	0.1
Other combustible packaging	0.0
Other unclassified combustibles	3.4
Green glass packaging	1.4
Clear glass packaging	3.4
Brown glass packaging	0.8
Packaging glass other colours	0.1
Other glass waste	0.2
Ferrous metal packaging	1.8
Other ferrous metal waste	0.3
Aluminium packaging	1.1
Other aluminium waste	0.1
Other metal packaging	0
Other metal waste	0.3
Unclassified Incombustibles	1.8
Aerosols, spray	0.3
Other domestic waste special	0.3
Fine elements < 20 mm round mesh	6.7
	** averaged over four campaigns*

Table 12-3 Dublin City Waste Composition Study Results

Sub Category	% Composition in each Local Authority Area	
	Dublin Corporation	South Dublin County Council
Organic Matter	34.64	47.70
Paper	23.34	25.20
Textiles	2.57	1.80
Glass (material)	5.95	5.40
Glass (packaging)	5.65	5.40
Plastic (material)	12.24	8.10
Plastic (packaging)	10.33	6.90
Ferrous Metal (material)	1.77	1.90
Ferrous Metal (packaging)	1.77	1.90
Non-Ferrous Metal (material)	1.14	0.70
Non-Ferrous Metal (packaging)	1.14	0.40
Other Metals (material)	0.70	0.70
Other Metals (packaging)	0.00	0.00
Other materials	17.65	8.50
Other Packaging	2.98	1.60

Table 12-4 Urban Household Waste Characterisation (EPA National Waste Database – 1998)

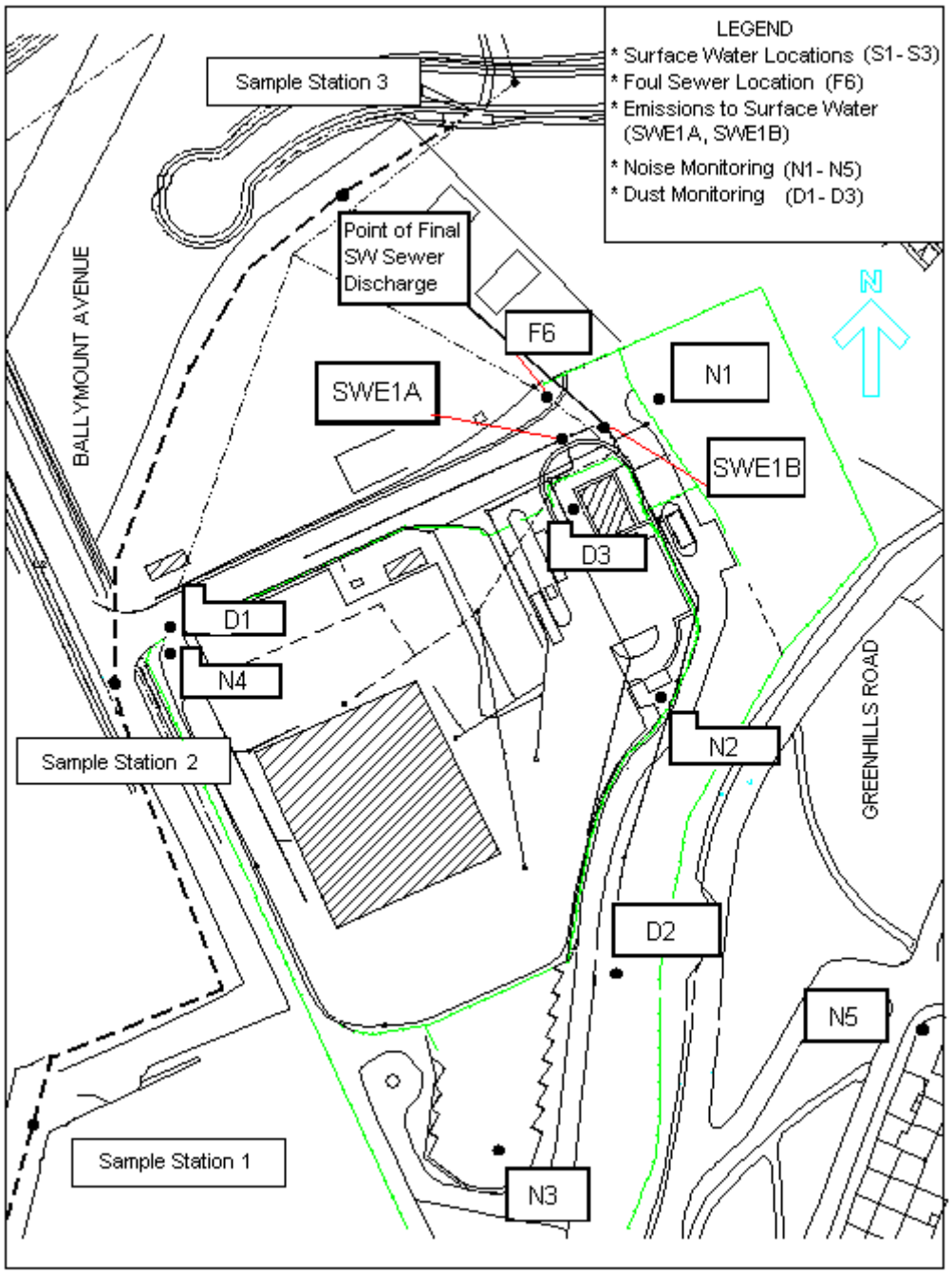

Figure 12.1 Monitoring Location Map