



## ANNUAL ENVIRONMENTAL REPORT

**2010**

Name: Acorn Recycling Ltd

Address: Ballybeg Composting Facility, Ballybeg, Littleton, Co. Tipperary

Waste Licence: W0249-01

Reporting Period: 21 June 2010 (Commencement) – 31 December 2010

Submitted by \_\_\_\_\_  
Sam Bowden  
Environmental Manager

Web: [www.acornrecycling.com](http://www.acornrecycling.com)

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Acorn Recycling Ltd Registered in Ireland: Company No: 384234. VAT No: 6404234F.  
Managing Director: Rónán Beasley. Acorn Recycling is a member of the Arlo Group.

## **1.0 Introduction**

The Ballybeg Composting Facility operated by Acorn Recycling, Ballybeg, Littleton, Co. Tipperary commenced waste acceptance on the 21<sup>st</sup> June 2010.

The facility is a fully enclosed forced aeration in-vessel composting facility with air extraction and biofiltration.

The facility is licensed by the EPA under waste licence W0249-01 for the acceptance of a 45,000 tonnes per annum of a biodegradable wastes.

In accordance with condition 11.12 of the licence this report is the Annual Environmental Report (AER) for 2010. The report covers the period 21<sup>st</sup> June 2010 to 31<sup>st</sup> December 2010.

## **2.0 Waste Activities carried out at the Facility**

The facility is licensed to carry out the waste activities listed below in accordance with the third and fourth schedules of the waste management acts 1996 – 2008. The extent to which the waste activity was carried out is detailed for each activity

### Third Schedule Activities

- 6. Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule.  
(A trial of 391.76 tonnes of 'organic fines' (EWC 191212) was accepted at the facility for treatment. The trial is on-going)
  
- 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.  
(Not carried out during the reporting period)

### Fourth Schedule Activities

- 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).  
(9,766.43 tonnes of biodegradable wastes (excluding the 'organic fines') was accepted at the facility for composting)
  
- 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.  
(Not carried out during the reporting period)

### **3.0 Waste Management Record**

#### 3.1 Waste Acceptance

A total of 10158.19 tonnes of waste was accepted at the facility for treatment during the reporting period.

Table 1. below shows the waste types and quantities accepted at the facility during the reporting period.

The most abundant waste type received was Biodegradable Kitchen & Canteen Waste (EWC 200108) which constituted 50% of the total waste received.

Table 1. Waste Accepted 2010

EWC	DESCRIPTION	QUANTITY (t)
020101	SLUDGES FROM WASHING/CLEANING (AGRI.)	9.34
020106	ANIMAL FAECES, URINE AND MANURE (AGRI.)	20.22
020203	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING (MEAT INDUSTRY)	600.22
020204	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (MEAT INDUSTRY)	738.44
020304	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING (ANIMAL FEED)	64.42
020501	MATERIAL UNSUITABLE FOR CONSUMPTION OR PROCESSING (DAIRY INDUSTRY)	7.22
020502	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (DAIRY INDUSTRY)	1035.84
020701	WASTES FROM WASHING, CLEANING AND MECHANICAL REDUCTION OF RAW MATERIALS (DRINKS INDUSTRY)	122
020704	MATERIALS UNSUITABLE FOR CONSUMPTION PROCESSING (DRINKS INDUSTRY)	14.6
070112	SLUDGE FROM ON SITE EFFLUENT TREATMENT OTHER THAN THOSE MENTIONED IN 070111 (PHARMA)	77.12
190801	SCREENINGS	186.08
190805	SLUDGES FROM TREATMENT OF URBAN WASTE WATER	1631.97
190901	SOLID WASTE FROM PRIMARY FILTRATION AND SCREENINGS	41.14
191212	OTHER WASTES (INCLUDING MIXTURES OF MATERIALS), ORGANIC FINES	391.76
200108	BIODEGRADABLE KITCHEN AND CANTEEN WASTE	5070.64
200125	EDIBLE OIL AND FAT	138.54
200304	SEPTIC TANK SLUDGE	6.06
200304	WASTE FROM SEWAGE CLEANING	2.58
	<b>Total</b>	<b>10158.19</b>

#### 3.2 Waste Dispatched

Two waste types were dispatched offsite during the reporting period namely; plastics from the screening of compost (EWC 191212) and composting leachate (190599).

The following quantities of each waste were disposed of in 2010

Table 2. Waste dispatched 2010

EWC	DESCRIPTION	TONNAGE DISPOSED
191212	Plastic 'Overs'	350.98
190599	Compost Leachate	104.02

In accordance with condition 11.13 of the waste licence a full record is maintained on site which is open to inspection by the agency. This record contains the tonnages, EWC code, description of waste, details of the waste haulier, and details of the disposal destination (including full copy of waste licence/permits where appropriate).

**4.0 Resource Consumption Summary**

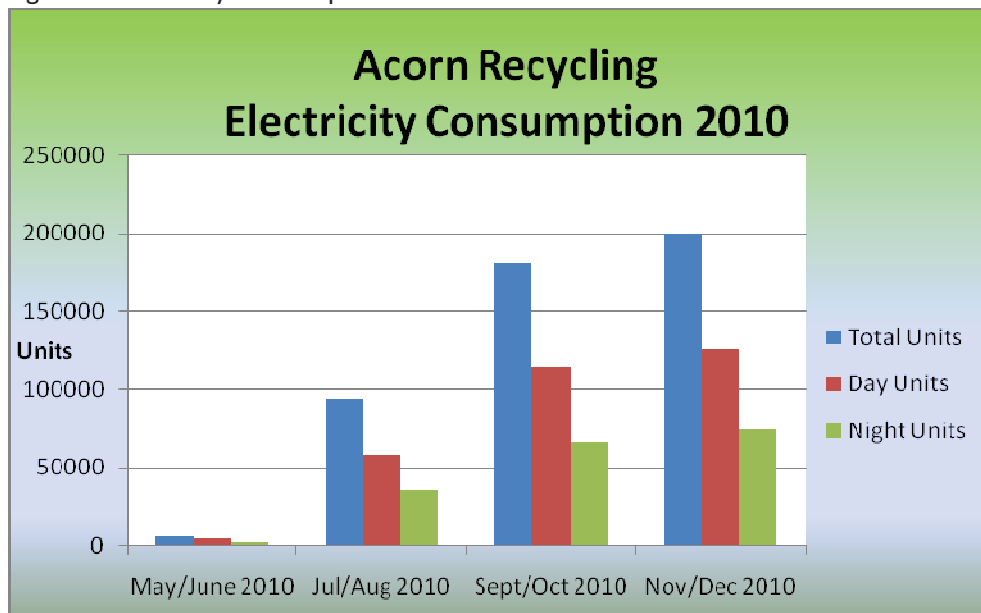
**4.1 Electricity Usage**

Table 3. and Figure 1. below detail the day and night units of electricity used on site during each 2 month period since the facility commenced operations.

Table 3. Electricity Consumption 2010

Billing Period	Day Units	Night Units	Total Units
May/June 2010	4200	1680	5880
Jul/Aug 2010	58320	35520	93840
Sept/Oct 2010	115080	65760	180840
Nov/Dec 2010	126000	73920	199920
	303600	176880	480480

Figure 1. Electricity Consumption 2010



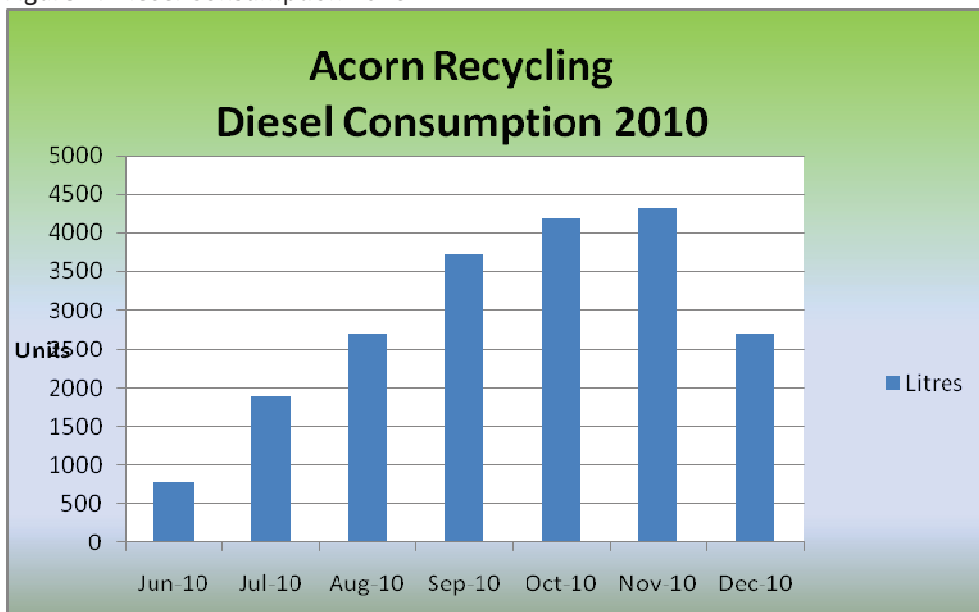
4.2 Diesel Usage

Table 4. and Figure 2. below show diesel consumption in 2010. The Diesel consumption increased following commencement as would be expected. Also from September a diesel powered mobile pre-screen was utilised which would have increased diesel consumption on site. An electric powered fixed unit will be installed in March 2011.

Table 4. Diesel Consumption 2010

Month	Litres
Jun-10	784
Jul-10	1900
Aug-10	2701
Sep-10	3725
Oct-10	4173
Nov-10	4326
Dec-10	2698
<b>Total</b>	<b>20307</b>

Figure 2. Diesel Consumption 2010



#### 4.3 Compost Amendment Materials

1366.54 tonnes of woodchip was accepted at the facility for use in the composting process.

612.34 tonnes of compost was received from another composting facility in order to inoculate the incoming waste.

#### 4.4 Water

Water usage is minimal. A power washer is used on site to wash vehicles upon exit as well as cleaning equipment on site. Other uses on site include use in the canteen.

Water is supplied by a groundwater well. It is intend to carry out an assessment of water usage with a view to reducing water usage on site in 2011.

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.2	Carry out assessment of practicable means to reduce water usage	Identify water uses on site Quantify water uses on site Identify measure for reducing water usage where practicable.	Deadline 31.12.2011	Environmental Manager	

#### **5.0 Report on the assessment of the efficiency of use of raw materials is processes and the reduction in waste generated.**

As the reporting period only covers the first 6 months of operation it is not appropriate to carry out this assessment. Acorn will be carrying out an assessment on the efficiency of raw materials and reduction in waste generated in 2011. Acorn is also installing a new fixed pre-screen which will ensure that clean plastics can be removed for disposal. This will reduce the tonnage of plastics removed for disposal. Other measures to reduce waste production could include an awareness campaign to customers reduce the quantity of plastics and other contaminants that enter the facility.

With regard raw materials, the main raw material product used on site is recycled woodchip. The use of woodchip largely depends on the constituency of the waste received, for example where sludge is accepted more woodchip will be used, and therefore may vary over time.

#### **6.0 Energy Efficiency audit report summary**

As the reporting period only cover the first 6 months of operation no energy efficiency audit report was carried out. An Energy Efficiency report will be carried out within 1 year of operations commencing in accordance with Condition 7.1 of the waste licence (i.e 21<sup>st</sup> June 2011)

### **7.0 Complaints Summary**

There have been no complaints made to the facility to date.

### **8.0 Reported Incidents Summary**

There were no incidents during the reporting period.

### **9.0 Review of Nuisance Controls**

Potential nuisance problems have not been an issue to date as is demonstrated by the fact that there have been no complaints.

Potential nuisance problems include the following;

Dust: Dust has not been an issue at the site. Monthly testing is ongoing and no high levels of dust have been detected.

Odour: The biofilter appears to be operating well. A test programme is currently being carried out which will determine the efficiency of the biofilter. All odour testing to date has shown the odour levels to be compliant with licence requirements.

Litter: No litter nuisance has occurred outside the boundary of the site. Good housekeeping has ensured that any litter present within the site is quickly removed. Work practices on site, such as all loads tipped inside the building with doors closed, ensure there is little risk of litter generation outside the building.

Vermin: A comprehensive best control programme is in place whereby a specialist pest company puts out bait and monitors activity on site.

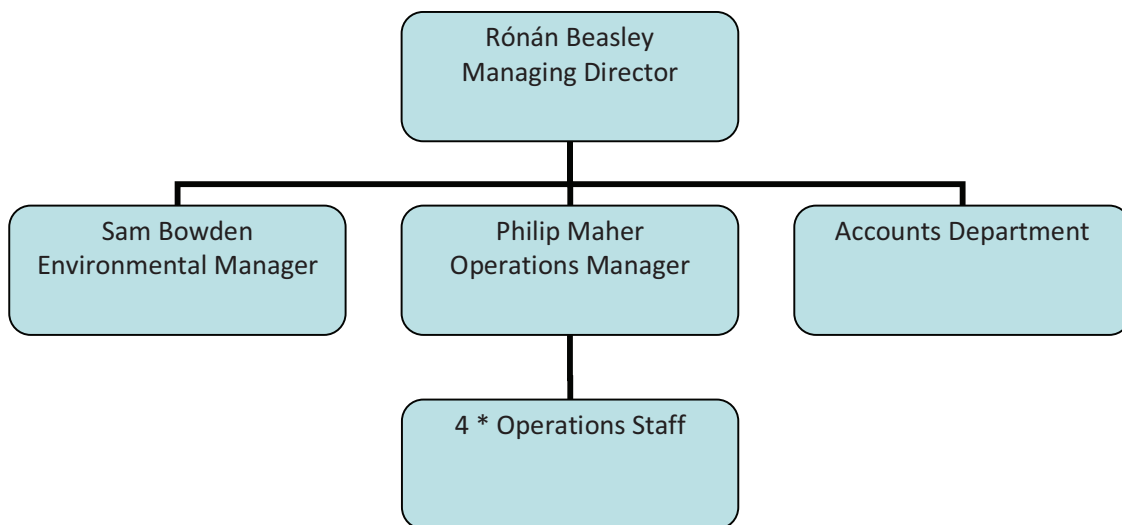
Birds: Birds are not an issue at the site. All waste activities are carried out within the closed building.

Noise: No noise nuisance has been caused by the facility. Quarterly noise monitoring is being carried out at present and this has shown all noise levels to be within the licence limits and all noise sensitive locations. As all activities are carried out within a closed building this reduces the risk of nuisance caused by noise from the facility.

**10.0 Management and Staffing Structure of the Facility and programme for public information**

Table 5. Management of the Facility

Name	Position	Duties and Responsibilities	Experience /Qualifications
Rónán Beasley	Managing Director	Overall Management of Company	B.Sc in Environmental Science Environmental Manager of McGill Environmental 2001 to 2006
Sam Bowden	Environmental Manager	Responsibility maintaining EMS, liaising with licensing authorities, quality control, waste acceptance.	B.Sc. in Environmental Science and Technology, M.Sc. in Environmental, Health and Safety Management
Philip Maher	Operations Manager	Day to day management of staff and operations on site. Responsibility for implementing procedures on site	Cré - Institute of Technology, Sligo - FÁS Certificate in Compost Facility Operation Experience in managing composting facility.



Programme for public information  
 Acorn Recycling have an open door policy for public information. Members of the public are regularly shown around the facility and can access environmental information on site. A copy of the communications programme is available on site EMS ARB06-CP



## 11.0 Environmental Monitoring

### 11.1 Noise Monitoring

Day and Night noise monitoring was carried out at the facility by an independent consultant (AES Engineering Solutions Ltd) twice during 2010. The results showed no significant noise nuisance being caused by the facility. Daytime noise levels at NSL1 above the licence limit of 55dB were recorded in August but these were caused by high noise levels at the road and were not caused by the composting facility. There was no noise audible from compost facility.

Table 6. Noise Monitoring 2010 (NSL1)

Date	Day dB(A) Laeq (30min)	Night dB(A) Laeq (30min)
Aug-10	56.9*	44.9
Dec-10	54.1	45.0

\*Background noise included high volume of traffic movements on public road including HGV's - Excess of 60 vehicles during recording - (+15m). Other background influences include dogs barking (+ 10-20M). NSL within 20M of travelling community settlement. No noise audible from Compost Facility

Table 7. Noise Monitoring 2010 (NSL2)

Date	Day dB(A) Laeq (30min)	Night dB(A) Laeq (30min)
Aug-10	48.8	42.0
Dec-10	53.0	44.2

### 11.2 Groundwater Monitoring

Table 8. Groundwater Monitoring Results (Sampling Date: 18 Oct 2010)

Parameter	GW1	GW2**	GW3
pH	7.3	12.3	7.1
COD (total)	<10	221	<10
Total Ammonia	1.86	20.2	2.62
Total Nitrogen	4.1	67.2	2.4
Conductivity	375	4290	761
Chloride	15.5	17.5	11.5
Organic Compounds	Not detected*	Not detected*	Not detected*

\*\* Inadequate water in borehole for well to be purged, sample contained white/yellow silt/clay from bottom of well. Sample not representative of groundwater.

### 11.3 Monitoring of Emissions to Water

One sample was taken from storm water discharging from the site at SW1 during the reporting period.

Table 9. Storm Water Monitoring (Sampling Date: 23 Dec 2010)

Parameter	Result
Ammonia (mg/l)	8.6
Suspended Solids (mg/l)	88

### 11.4 Odour & Bioaerosols

A comprehensive Odour and Bio aerosols monitoring program is carried out on site by independent consultants, Odour Ireland Ltd. This program monitors the efficiency of the biofilter on site as well as ambient bioaerosols. This monitoring forms part of a biofilter test programme currently being carried, a report from which will be submitted in 2011.

Parameters requiring quarterly monitoring were carried out twice during 2010 (i.e Q3 & Q4) and parameters requiring biannual or annual monitoring were carried out once in 2010 (i.e H2).

Table 10. Biofilter Monitoring

Parameter	Sep-10	Dec-10	Limit
Average Odour OUE/m <sup>3</sup>	1807	2110	–
% Odour Removal	96	97	–
Total Aliphatic Amines (mg/Nm <sup>3</sup> )	0.89	1.28	–
Hydrogen Sulphide (mg/Nm <sup>3</sup> )	<0.045	0.011	<5
Ammonia (mg/Nm <sup>3</sup> )	14.9	22.4	<50
Total Mercaptans (mg/Nm <sup>3</sup> )	<0.10	<0.1	<5
Bed Media pH	–	7.4	–
Moisture (% w/w)	–	49	–
Total Viable Counts (CFU/Kg)	–	62*10 <sup>5</sup>	–

Table 11. Bioaerosols Monitoring (Dec 2010)

Location	Asperagillus Fumigatus (CFU m <sup>3</sup> )	Mesophilic Bacteria (CFU m <sup>3</sup> )
Loc Bio1	7	68
Loc Bio2	42	623
Loc Bio3	21	192

Table 12. PM10 Monitoring (Dec 2010)

Location	Average Concentration (ug/m3)	Limit (ug/m3)
PM1	18	50
PM2	13	50
PM3	11	50

#### Ammonia Emissions

The total volume of air extracted through the biofilter is estimated at 55,710m<sup>3</sup> per hour.

The total volume of air extracted during the year is 55,710m<sup>3</sup>/hr \* 4632 hrs (193 operations days in 2010) = 258,048,720m<sup>3</sup>/year

Average of 2 ammonia samples = 18.65 mg/m<sup>3</sup> NH<sub>3</sub>

Total ammonia emissions load in 2010 = 18.65mg/m<sup>3</sup> \* 258,048,720m<sup>3</sup>  
= 4,812.608 kg/year NH<sub>3</sub>

#### 11.5 Dust Deposition Monitoring

Monthly dust deposition was carried out at the site at four monitoring locations.

Table 13 Dust Deposition 2010 (mg/m<sup>2</sup>/day)

Month	DD1	DD2	DD3	DD4
Jul-10	79.5	82.7	_*	124
Aug-10	14	<5	<5	9.3
Sep-10	106.5	25.9	23.3	22.3
Oct-10	11.8	<5.0	<5.0	<5.0
Nov-10	24.3	<5.0	32.4	<5.0
Dec-10	22.5	<5.0	9	13.1

\*sample grossly contaminated by large (circa 100g

## 12.0 Procedures developed in 2010 relating to facility operations

Acorn Recycling developed the Standard Operation Procedures listed in Table 13. in 2010 for operations at the composting facility. Full up-to-date effective versions of these procedures are available on site for inspection.

Document Code	Procedure Description
SOP ARB01	Waste Acceptance and Characterisation Procedure
SOP ARB02	Cleaning and Hygiene Procedure
SOP ARB03	Blending/Loading a Bay
SOP ARB04	Screening and Loading/unloading of ABP sanitisation bays
SOP ARB05	Batch Traceability Procedure
SOP ARB06	Handling of Leachate Procedure
SOP ARB07	Compost Sampling and non-compliance
SOP ARB08	Non Compliance and Corrective Action
SOP ARB10	Awareness and Training Procedure
SOP ARB11	Emergency Response Procedure
SOP ARB12	Accident Prevention Procedure
SOP ARB13	Documentation Procedure
SOP ARB14	Groundwater Monitoring Procedure
SOP ARB15	Surface Water Monitoring Procedure
SOP ARB16	Dust Deposition Monitoring Procedure

### 13.0 Energy efficiency audit report summary and report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.

Reports on energy efficiency audit and efficiency of use of raw materials are included the environmental management programme for 2011 as follows;

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Carry out an audit of the energy efficiency of the site	Audit to be carried out in accordance with 'Guidance Note on Energy Efficiency Auditing'	Deadline 21.06.2011	Environmental Manager	
4.1	Carry out an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated	Carry out mass balance calculations on a number of waste batches, and assess scope for reducing the quantity of amendments used. Investigate rate of woodchip loss to final product.  Examine methods for improving the quality of the plastic recovered (Pre-screen operation)  Examine quality of waste received on site	Deadline 31.12.2011	Environmental Manager	

### 14.0 ELRA/DMP and Financial provision

The environmental liabilities risk assessment/DMP is currently under review with the agency. Financial provision based on the conclusions of this review will be provided.

**15.0 Environmental Objectives & Targets and Environmental Management Programme report  
for 2010 and proposal for 2011**

See attached separately



### ENVIRONMENTAL OBJECTIVES AND TARGETS.

<b>Environmental Objective and Targets for period 2010 – 2015 (Primary Objectives over the period)</b>			
<b>Objective No.</b>	<b>Objective</b>		
1.0	To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to.		
2.0	To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.		
3.0	To continually improve energy efficiency and resource use at the site		
4.0	To continually improve the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal.		
5.0	To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services		
6.0	To provide suitable site infrastructure on site		



### ENVIRONMENTAL MANAGEMENT PROGRAMME 2010

#### Objective 1.0: To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to

Objective No.	Target	Plan	Timescale	Responsibility	Status
1.1	To develop the EMS for the site	<p>Compile environmental manual</p> <p>Compile Objectives and Targets, and EMP</p> <p>Document Environmental Procedures including Accident Prevention Emergency Response</p>	Deadline 21.05.2010	<p>Environmental Manager (SB)</p> <p>Business Development Manger (AD)</p> <p>Environmental Manager (SB)</p>	Completed. Continual Review
1.2	To ensure all relevant employees are made aware of the requirements of the EMS and waste licence	<p>Identify Environmental Training needs of all employees</p> <p>Schedule appropriate training</p> <p>Provide environmental awareness training</p>	Deadline 21.05.2010	Environmental Manager (SB) H & S co-ordinator (KM)	Completed. Continual Review
1.3	To develop Public Awareness and Communication Programme	Compile Programme	Deadline 21.05.2010	Environmental Manager (SB)	Completed
1.5	To conduct annual environmental review meetings	<p>Review Environmental Performance</p> <p>Review EMP (including timescales for completion of existing targets and identification of new ones)</p>	Deadline 29.01.2011	Environmental Manager (SB) Managing Director (RB)	Completed (21Feb2011)

### ENVIRONMENTAL MANAGEMENT PROGRAMME 2010

**Objective 2.0: To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.**

Objective No.	Target	Plan	Timescale	Responsibility	Status
2.1	To develop and establish a Data Management System for collation, archiving, assessing and graphically presenting monitoring data	Establish monitoring schedule from licence  Determine the results that will produced and formulate data system	Deadline 25.05.2010	Environmental Manager	Completed
2.2	To prepare and implement test programme for the biofilter	Establish criteria for operations, control & mgt. of biofilter  Report on test programme submitted to EPA within 1 month of completion	Deadline 21.08.2010	Environmental Manager (SB) Managing Director (RB)	Test programme agreed with EPA and currently in process
2.3	To carry out a risk assessment to determine if the activity should have a fire-water retention facility	Carry out assessment  Submit assessment to EPA	Deadline 21.11.2010 (6 months after commencement)	Environmental Manager (SB)	Information submitted to EPA. Feedback from EPA requiring full assessment. Information to be submitted to EPA
2.4	To carry out all environmental monitoring as agreed with the agency	develop and implement monitoring schedule  liaise with contractors  Collate data	Deadline 15.08.2010	Environmental Manager (SB)	Completed and ongoing

**ENVIRONMENTAL MANAGEMENT PROGRAMME 2010**

**Objective 3.0: To continually improve energy efficiency and resource use at the site**

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Carry out an audit of the energy efficiency of the site	Audit to be carried out by consultant in accordance with 'Guidance Note on Energy Efficiency Auditing'	Deadline 21.05.2011	Environmental Manager	To be carried out
3.2	Carry out assessment of practicable means to reduce water usage	Identify water uses on site Quantify water uses on site Identify measure for reducing water usage where practicable.	Deadline 31.07.2011	Environmental Manager	To be carried out
3.3	To review on a continuous basis the compost quality results obtained from the testing as required under the licence.	Review results as received for conformity to the compost quality requirements  Review as part of annual environmental review meeting	Continuously  Deadline 29.01.2011	Environmental Manager	Completed and ongoing

**ENVIRONMENTAL MANAGEMENT PROGRAMME 2010**

**Objective 4.0: To continually improve the efficiency of the materials flow through the operations with a view to improving the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal**

Objective No.	Target	Plan	Timescale	Responsibility	Status
4.1	Carry out an assessment of the use of wood chip on site	Carry out mass balance calculations on a number of waste batches, and assess scope for reducing the quantity of amendments used. Investigate rate of woodchip loss to final product.		Environmental Manager	To be carried out 2011.
4.2	Carry out assessment detailing the duty and standby capacity in tonnes per day of all waste handling and processing equipment.	Carry out throughput assessment of IFE vibrating deck screen and loaders	Deadline 21.08.2010 (within 3 months of commencement)	Environmental Manager	Completed. To be reviewed April 2011 and submitted to EPA for approval
4.3	Examine use of wind sifter	Assess optimum moisture and particle conditions for removal of plastics with wind sifter. Examine methods for improving the quality of the plastic recovered.		Environmental Manager	Ongoing. Review use of new pre-screen which removes large plastic material for disposal offsite.



**ENVIRONMENTAL MANAGEMENT PROGRAMME 2010**

**Objective 5.0: To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services**

<b>Objective No.</b>	<b>Target</b>	<b>Plan</b>	<b>Timescale</b>	<b>Responsibility</b>	<b>Status</b>
5.1	To develop Public Awareness and Communication Programme (as per objective 1.3)	See objective 1.3	See objective 1.3	See objective 1.3	See objective 1.3
5.2	Provide onsite pick up service for compost to the general public	Investigate feasibility of pick up system for compost. Bulk users Small users	30.08.2011	Environmental Manager	Ongoing

### ENVIRONMENTAL MANAGEMENT PROGRAMME 2010

#### Objective 6.0: To provide suitable site infrastructure on site.

Objective No.	Target	Plan	Timescale	Responsibility	Status
6.1	Install wind sock	Obtain quotations Select Supplier and install windsock in suitable location	Prior to Commencement 21.05.2010	Environmental Manager (SB)	Purchased & Installed
6.2	Install Facility Notice Board	Obtain quotations Develop Content & Design Install	Prior to Commencement 21.05.2010	Environmental Manager (SB)	Purchased & Installed
6.3	Install Weather Monitoring Station	Obtain quotations/Specification Install	Prior to Commencement 21.05.2010	Environmental Manager (SB)	Purchased & Installed
6.4	Install Facility Map	Obtain quotations Install	Prior to Commencement 21.05.2010	Environmental Manager (SB)	Purchased & Installed

### ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets for period 2011 – 2015 (Primary Objectives over the period)			
Objective No.	Objective		
1.0	To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to.		
2.0	To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.		
3.0	To continually improve energy efficiency and resource use at the site		
4.0	To continually improve the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal.		
5.0	To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services		

### ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

#### Objective 1.0: To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to

Objective No.	Target	Plan	Timescale	Responsibility	Status
1.1	To ensure all relevant employees are made aware of the requirements of the EMS and waste licence	Identify Environmental Training needs of all employees Schedule appropriate training Provide environmental awareness training	Deadline 31.12.2011	Environmental Manager (SB) H & S co-ordinator (KM)	Continual Review

### ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

#### Objective 2.0: To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.

Objective No.	Target	Plan	Timescale	Responsibility	Status
2.2	To prepare and implement test programme for the biofilter	Establish criteria for operations, control & mgt. of biofilter  Report on test programme submitted to EPA within 1 month of completion	Deadline 21.08.2011	Environmental Manager (SB) Managing Director (RB)	Test programme agreed with EPA and currently in process
2.3	To carry out a risk assessment to determine if the activity should have a fire-water retention facility	Carry out assessment  Submit assessment to EPA	Deadline 29.04.2011	Environmental Manager (SB) Managing Director (RB)	
2.4	To carry out all environmental monitoring as agreed with the agency	develop and implement monitoring schedule liaise with contractors Collate data	Deadline 31.12.2011	Environmental Manager (SB)	ongoing



**ENVIRONMENTAL MANAGEMENT PROGRAMME 2011**

**Objective 3.0: To continually improve energy efficiency and resource use at the site**

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Carry out an audit of the energy efficiency of the site	Audit to be carried out in accordance with 'Guidance Note on Energy Efficiency Auditing'	Deadline 21.06.2011	Environmental Manager	
3.2	Carry out assessment of practicable means to reduce water usage	Identify water uses on site Quantify water uses on site Identify measure for reducing water usage where practicable.	Deadline 31.12.2011	Environmental Manager	
3.3	To review on a continuous basis the compost quality results obtained from the testing as required under the licence.	Review results as received for conformity to the compost quality requirements	Continuously  Deadline 31.12.2011	Environmental Manager	Completed and ongoing



**ENVIRONMENTAL MANAGEMENT PROGRAMME 2011**

**Objective 4.0: To continually improve the efficiency of the materials flow through the operations with a view to improving the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal**

Objective No.	Target	Plan	Timescale	Responsibility	Status
4.1	Carry out an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated	Carry out mass balance calculations on a number of waste batches, and assess scope for reducing the quantity of amendments used. Investigate rate of woodchip loss to final product.  Examine methods for improving the quality of the plastic recovered (Pre-screen operation)  Examine quality of waste received on site	Deadline 31.12.2011	Environmental Manager	
4.2	Carry out assessment detailing the duty and standby capacity in tonnes per day of all waste handling and processing equipment.	Carry out throughput assessment of IFE vibrating deck screen and loaders	Deadline 20.04.2011	Environmental Manager	

### ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

#### Objective 5.0: To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services

Objective No.	Target	Plan	Timescale	Responsibility	Status
5.1	Review Public Awareness and Communication Programme	Provide tours of facility to local schools, CIWM, Macra Na Feirne etc.	31.12.2011	Environmental Manager (SB)	
5.2	Provide onsite pick up service for compost to the general public	Investigate feasibility of pick up system for compost. Bulk users Small users	31.12.2011	Environmental Manager (SB_	

AQS Environmental Solutions  
 Archerstown Industrial Estate  
 Thurles  
 Co. Tipperary  
 Tel: 050457800  
 Fax: 050457801  
 Email: gary@arlogroup.ie  
 Web: www.aqsenvironmentalsolutions.ie



Record Sheet for Tank Testing	
<b>Surveyors:</b> AQS Environmental Solutions	<b>IPC Reference No:</b>
<b>Client / Site:</b> Acorn Recycling, Littleton Composting Plant	<b>IPC Category:</b>
<b>Tank Ref No:</b> Bio Filter Condensate Tank	<b>Tank Type:</b> Holding Tank
<b>Tank Location:</b> Over Ground	<b>Tank Classification:</b> Bunded Area
<b>Tank Dimensions:</b> 6.000m width x 12.000m long x 1.28m depth	<b>Tank Materials:</b> Bio Filter Condensate
<b>Tank Construction Materials:</b> Concrete	<b>Tank Total Capacity:</b> 92.16 cubic metres
<b>Tank Lining Materials:</b> None	<b>Weather Conditions:</b> Some Rain & Above Freezing
<b>Tank inlets /Connections:</b> One inlet	<b>Inlet Diameters:</b> 150mm
<b>Deemed practicable / safe to conduct hydrostatic test?</b>	Yes
<b>If no or shortened periods of time, give reasons:</b>	
<b>Date of Hydrostatic Test:</b> 07.02.2011	<b>Time scale of test:</b> 5 days
<b>Description and Results of Hydrostatic Test:</b> Tank was filled to 0.26m from base level as this was the height of the inlet pipe within the bunded area. Estimated rainfall in the area, over test period was 9mm. At the conclusion of the test, the water level remained at 0.26m from base level. Any rainfall entering the tank would have raised the water level in the tank and passed out of the tank through the inlet pipe.	
<b>Description and Results of Visual Inspection:</b> Ok - inlet pipe present at 0.26m from base of tank.	
<b>Recommendations</b> N/A	
<b>Pass / Fail of Hydrostatic Test:</b>	Pass
<b>Signed - Gary Pollard</b>	<b>Date: 16.02.2011</b>