WASTE LICENCE APPLICATION

ATTACHMENT A: NON TECHNICAL SUMMARY

FOR PROPOSED COMPOSTING FACILITY AT BALLYBEG, LITTLETON, CO. TIPPERARY

SUMITTED TO; THE ENVIRONMENTAL PROTECTION AGENCY AS PART OF WASTE LICENCE APPLICATION

SUMITTED BY; ACORN RECYCLING LTD

ATTACHMENT A: NON TECHNICAL SUMMARY

A.1 Applicant's Details

Name*:	ACORN RECYCLING LTD.
Address:	ARCHERSTOWN INDUSTRIAL ESTATE
	THURLES
	CO. TIPPERARY
Tel:	0504 57841
Fax:	0504 57842

A.2 Name and Address for Correspondence

Name:	RONAN BEASLEY
	ACORN RECYCLING LTD
Address:	ARCHERSTOWN INDUSTRIAL ESTATE
	THURLES
	CO. TIPPERARY
Tel:	0504 57841
Fax:	0504 57842
e-mail:	ronan@acornrecycling.com

A.3. ***Address of registered or principal office of Body Corporate (if applicable)***

Address:	BALLYBEG
	LITTLETON
	CO. TIPPERARY

A.4 Location of Activity

Name:	BALLYBEG COMPOSTING FACILITY
Address*:	BALLYBEG
	LITTLETON
	CO. TIPPERARY

The planning authority for the facility is North Tipperary County Council

National Grid Reference (8 digit 4E,4N)	6188, 6520

A.5 Introduction to facility

In recent years there has been recognition that new and innovative solutions need to be found for the management of biodegradable waste. From European environmental policy to local development plans there is unanimous agreement that biological treatment facilities have a significant role to play in reducing the quantities of organic materials being landfilled and the environmental degradation and risks that accompany it. The Landfill Directive sets out stringent targets for the reduction of biological waste going to landfill. In Ireland we must reduce the quantity of biological waste going to landfill to 65% less than the quantity in 1995. Since that time the quantity of waste landfilled has only increased, so achieving this target will be extremely difficult. The urgent need for action to increase biological treatment capacity was recognised by the EPA in a guidance policy document published in 2008.

This waste licence application is for the development of a proposed composting facility at Ballybeg, Littleton, Co. Tipperary. The proposed plant will process up to 45,000 tonnes of non-hazardous biological waste to produce compost or stabalised biowaste.

The plant is a completely enclosed indoor composting plant with air extraction and biofiltration. The technology utilized is static pile, forced aerations composting with temperature feedback control. The entire process is carried out within an enclosed building. Indeed, even waste unloading and product loading is

carried out within the building, with roller shutter doors closing being vehicles to eliminate the possibility of fugitive emissions. Waste will enter the facility via a weigh bridge into a waste acceptance area within the enclosed building. Here waste can be tipped off without any risk of contaminating the final product or the environment. The waste will then be mixed with a bulking agent (woodchip) and laid in rows (composting bays) approximately 30m long. The bulking agent allows air to travel more readily throughout the mixture. These bays have under floor aeration to enable optimal growth. Moisture and Temperature are also monitored closely in order to optimise the composting process.
The naturally occurring micro-organisms within the waste grow rapidly within the warm, moist, and aerated conditions created within the composting bays. These microbes break down the organic matter present in the waste generating simpler inorganic molecules and heat. The heat within the bays intensifies until the material reaches temperatures in excess of 60 degrees Celsius. This is then transferred into another bay for curing (i.e. the compost is left for at least 21 days where it undergoes further but less intensive microbial break down). This ''Mature'' compost product is then screened in order to remove any large material, in particular large woodchip added as a bulking agent at the beginning of the process.

The final product is a compost of Class 1 quality that is stable, high in organic matter, pathogen free, and suitable for use as a soil improver. Alternatively the facility may accept mixed municipal fines, in which case the stable product produced is known as stabilised biowaste. This material is more biologically inert than untreated waste and therefore much of the problems associated with landfilling biodegradable waste are eliminated. All outlets for this material would need to receive prior approval from the EPA however, as this product is generally highly contaminated with plastics. Should this material be accepted at the facility, it will be kept completely clear from all other wastes and composts.

A.6 Classes of Activity
The following classes of activity as per the Waste Management Acts 1996 – 2003 will be carried out at the facility**.**

THIRD SCHEDULE **Waste Disposal 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. *This activity relates to the biological treatment of materials that does not result in the production of a compost that meets the required compost quality standard. The outlet for this material must therefore have to be approved by the EPA prior to removal off site.*
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. *This activity relates to the storage of material produced as a result of the activity above on site.*
FOURTH SCHEDULE **Waste Recovery Activities**
2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes). *This activity relates to the composting of materials suitable for the production of a quality compost product. This activity is the principal activity.*
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. *This activity refers to the storage of waste prior to being composted on site. It is not envisaged that waste will be stored for any prolonged period prior to composting although from time to time it may be necessary.*

The maximum annual tonnage of waste to be handled at the site and the year to which the quantity relates is indicated below.

Maximum Annual Tonnage (tpa)	45,000
Year	2010

A.7 Waste Types

The table below shows the broad range of waste types that could potentially be accepted at the facility. This list demonstrates the flexibility of a biological composting plant to treat a wide range of wastes. In reality it is unlikely that many of these waste will be composted in significant quantities with the main waste types being sludges from on site wastewater treatment (from a number of industries including sewage treatment, food and drinks industry etc) as well as source segregated food and garden waste. In addition to this municipal waste that has undergone mechanical treatment may be biological treated to stabilise the product. This activity will be kept separate from all other composting activities. The quantities of each waste type that will be accepted at the facility is impossible to anticipate. Due to the blending carried out of different biological wastes (excluding municipal fines) in a composting facility, the exact waste types received will not have a great influence on the operations of the activity.

02 01	**Waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 01	Sludges from washing and cleaning
02 01 03	Plant-tissue waste
02 01 06	Animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated of site
02 01 99	Wastes not otherwise specified
02 02	**Wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	Sludges from washing and cleaning
02 02 02	Animal Tissue waste
02 02 04	Sludges from on-site effluent treatment
02 02 99	Wastes not otherwise specified
02 03	**Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing;**
02 03 01	Sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	Materials
02 03 05	Sludges from on-site effluent treatment
02 03 99	Wastes not otherwise specified
02 05	**Wastes from the dairy products industry**
02 05 01	Materials unsuitable for consumption or processing
02 05 02	Sludges from on-site effluent treatment
02 05 99	Wastes not otherwise specified
02 06	**Wastes from the baking and confectionery industry**
02 06 01	Materials unsuitable for consumption or processing
02 06 03	Sludges from on-site effluent treatment
02 06 99	Waste not otherwise specified
02 07	**Wastes from the production of alcoholic and non-alcohol beverages (except coffee, tea and cocoa)**
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	Wastes from spirits distillation
02 07 04	Materials unsuitable for consumption processing
02 07 05	Sludges from on-site effluent treatment
02 07 99	Waste not otherwise specified
03 03	**Wastes from pulp, paper and cardboard production and processing**
03 03 11	Sludges from on-site effluent treatment other than those mentioned in 03 03 10(EWC)
07 03	**Wastes from the MFSU of organic dyes and pigments (exept 06 11)**
07 03 12	Sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 05	**Wastes from the MFSU of pharmaceuticals**

07 05 12	Sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	Solid wastes other than those mentioned in 07 05 13
07 06	**Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 12	Sludges from on-site effluent treatment other than those mentioned in 07 06 11
17 05	**Soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 05 06	Dredging spoil other than those mentioned in 17 05 05
19 05	**Wastes from aerobic treatment of solid wastes**
19 05 03	Off-specification compost
19 05 99	Wastes not otherwise specified
19 06	**Wastes from anaerobic treatment of waste**
19 06 03	Liquor from anaerobic treatment of municipal waste
19 06 04	Digestate from anaerobic treatment of municipal waste
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste
19 06 99	Wastes not otherwise specified
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 01	Screenings
19 08 05	Sludges from treatment of urban waste water
19 08 09	Grease and oil mixture from oil/water separation containing only edible oil and fat
19 08 12	Sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	Sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09	**Wastes from the preparation of water intended for human consumption or water for**
19 09 01	Solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 04	Spent activated carbon
19 12	**Wastes from the mechanical treatment of waste (for example sorting, crushing,**
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other
19 13	**Wastes from soil and groundwater remediation**
19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 06	Sludges from groundwater remediation other than those mentioned in 19 13 05
19 13 08	Aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07
20 01	**Separately collected fractions**
20 01 08	Biodegradable kitchen and canteen waste
20 01 25	Edible oil and fat
20 01 26	Oil and fat other than that mentioned in 20 01 25
20 02	**Garden and park wastes (including cemetery waste)**
20 02 01	Biodegradable waste
20 03	**Other municipal wastes**
20 03 01	Mixed municipal waste
20 03 02	Waste from markets
20 03 04	Septic tank sludge

A.8 Raw materials, fuels, and energy

The table below shows the estimated quantities of raw materials, fuels, and energy that will be utilised at the site.

Raw Material/Product	Annual Throughput (approx.)	Storage Capacity
Woodchip	5200 tonnes	150 m3
Saw Dust	3000 tonnes	100 m3
Diesel	21 tonnes	3 m3
Compost (product)	20,000 tonnes	2100 m3
Stabilised Biowaste	Unknown*	450 m3
Energy	100kw	NA

Energy usage at the facility is extremely efficient because of the fact that slow start continuous aeration fans will be used. These fans are much more efficient than on off fans. The temperature feedback means that the micro-organisms get just as much air that they require during composting.

A.9 Description of plant, methods, processes, abatement, treatment and operating procedures

The Composting Process

The Acorn Recycling facility is divided into two main sections, the primary processing and secondary processing area. These are further sub-divided into materials handling areas and composting areas.

Operations are carried out in designated areas. The composting section is essentially a separate building which will have roller shutter doors at the entrance of each compost bay. Twelve bays will form the entire composting area in both primary and secondary areas. The materials handling section is where dry amendments, finished compost, wood chip and waste is mixed and where the front end loaders operate. A specialised waste acceptance area is located in the primary processing building. This allows high tipping trucks, tankers and other vehicles enter the building and tip off without disturbing the work happening in the processing area. The waste acceptance area is self contained, has roller shutter doors, preventing any fugitive emissions and has its own air extraction system. An operator allows the unit to enter the building, closes the doors and directs the driver to tip off the material. Once that is completed, the operator ensures the wheels and axle are washed of any heavy debris prior to signalling the driver to move off.

The design of the tipping area is such that waste is contained within a bunded area. The sloping floors are such that a loader can remove and mix the entire quantity from different angles. The position of the waste acceptance area is beside the screening area in the adjacent secondary processing area, which means that finished compost or indeed recycled wood chip, can be conveyed into the area for mixing.

The closeness of these facilities and the isolation of the waste acceptance area ensures that all incoming waste is mixed and processed the same day. This ensures that minimum downtime is assured from the loader drivers perspective and that an efficient materials handling system is in place for finished compost and amendment.

The waste is converted into compost using a controlled static pile, forced aeration system. The mixing and composting takes place entirely within the sealed building. The incoming wastes will be mixed with dry finished compost and other amendments. The amendments used are sawdust and shredded woodchips.

The 12 composting bays contain aeration channels that allow air to blow evenly through the compost pile. When the waste is mixed according to standard operating procedures the resulting admixture is at approximately 60% moisture. This is sufficient for high rate composting, creating relatively high temperatures within 12 hours of blending.

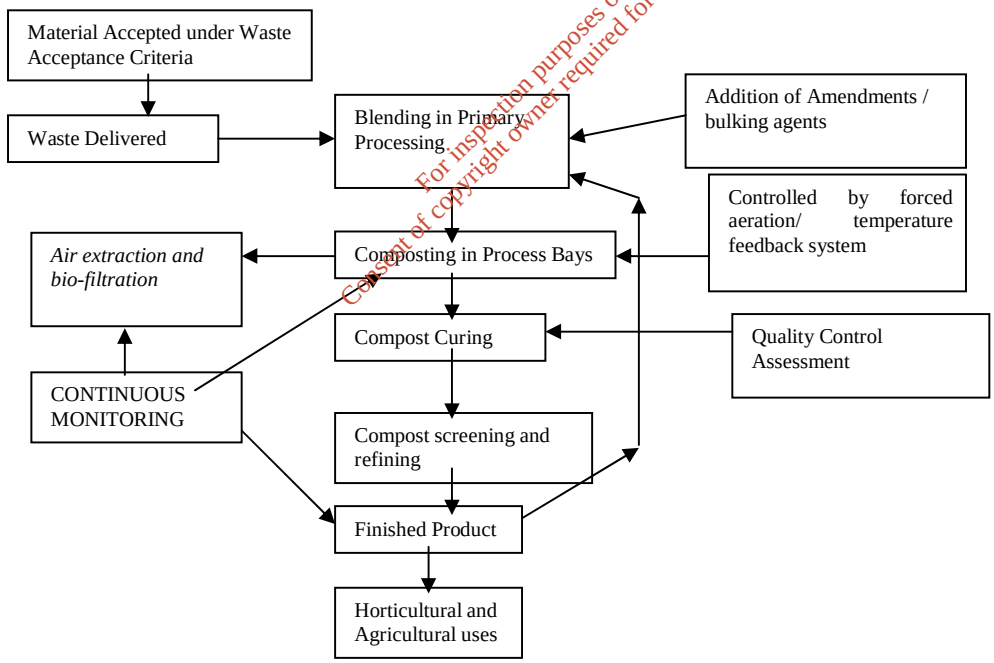
The mixture is brought by the loader into the composting bays behind the primary processing area. It is loaded into the bays until the bay is full. Temperature probes are placed in the middle of the bay. These relay the temperature of the pile to a control panel located at the front of the building in the control room. When sufficient temperatures are reached for controlling pathogens, speed regulators on the fans adjust the air volume entering the bay according to the temperature within the bay. If the bay is getting very hot, for example, more air is added which cools the bay to the ideal temperature inputted. Once this is reached the air volume reduces again to prevent further cooling. This controls the process and allows the composting process to meet the guidelines envisaged in the EPA Waste Licence. It also allows the complete breakdown of material in the bay under highly controlled aerobic conditions.

Once the compost reaches the ideal temperatures for a week it continues to hold high temperatures for approximately 2 to 3 more weeks. Water levels, breakdown of material and lack of food supply for microbes reduces the temperatures down naturally after this time. However when the material is removed from the bay and put back into another it starts the high temperature process again. The reason is because the material breaks up during the handling process and becomes mixed up though the system releasing nutrients to the microbes again. A high level of activity starts again but temperatures reduce rapidly this time in the second phase of composting. Once this happens the material is sent over to a secondary composting are where the curing process occurs. Compost in these bays is stacked higher here and the aeration rate is reduced. Odour potential in these bays is very low and in this phase the compost becomes stable, dry and is ready to be shipped from site. Once the compost is assessed for maturity indicators it is screened. Three things happen here: Some compost is sent back over to the primary processing area, some compost is stockpiled in the corner to await transit from site and the heavy "overs" from the screening process are sent also back to the primary processing area for mixing with incoming waste materials.

The controlled aerobic system eliminates any possibility of odour from the facility.

All incoming waste is non-hazardous. The waste requires analysis to meet specific waste acceptance criteria. Once this is met and documented permission is granted to allow the material to enter the premises. A number of trial loads are required to fully integrate the waste into the facilities waste list. Ultimately, waste needs to produce compost which meets Acorn Recycling's own compost standard as well as the standard set out in the EPA Waste Licence.

Figure AR2-03: Process Flow Diagram



The Air Handling System

Integral to the composting system is the air handling system that controls the flow of air from the composting bays through to the air purifying bio filter. 12 5.5kw fans will supply air to the composting bays. Three 30 kilowatt extraction fans will extract air from the composting bays and from the waste intake area. Two extraction fans will be located in the primary composting building and one will be located in the secondary composting building, due to the reduced aeration requirements in these composting bays. A negative air pressure will be maintained within the building and the roller shutter doors which effectively

shut off the composting sections from the processing areas means that the units are completely sealed off from the atmosphere.
The composting process itself, being fully aerobic and controlled through supply of oxygen to the micro organisms, produces very few gases that would be considered odorous, such as mercaptans, methane and hydrogen sulphide. These gases are normally considered to be produced during an anaerobic activity and if produced during composting, would indicate that the process is being run ineffectively. The air handling system proposed has a number of features which enables the entire air volume to be stopped. The composting sections are already sealed from the materials handling area. Also the biofilter extraction fans can be turned to 0, preventing the escape of air from the building.

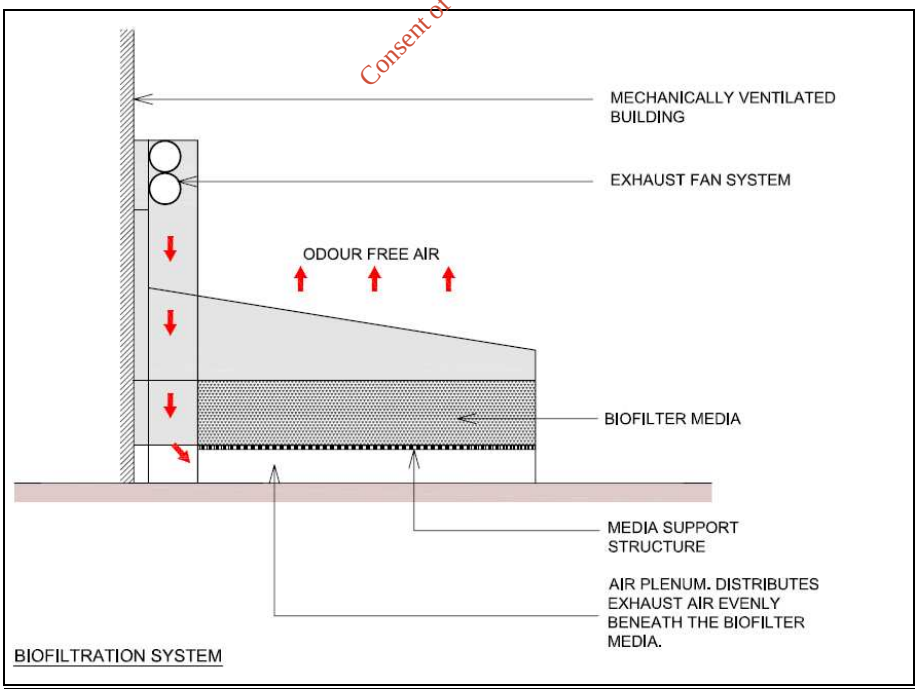
In the event of an electrical fault or circumstances where the bays are shut down, a slow start up procedure can be implemented. This involves the shut down of extraction fans, and the slow start up of composting bays. Once an assessment of the composting bays has been made that shows aerobic activity has again commenced, only then do the extraction fans begin winding up slowly until full power is resumed.

The Biofiltration System
Biofiltration is an air pollution control technology adapted from a naturally occurring soil process that uses micro-organisms to break down volatile organic compounds (VOC) and oxidisable inorganic gases and vapours contained in the air. It is an effective and efficient means of removing biodegradable compounds from the air. For these reasons, industrial applications of biofiltration have gained acceptance and have increased in numbers during the past 15 years.

The biofiltration process involves bacteria and fungi that are dispersed throughout the woodchip media. As exhaust air passes through the media, the bacteria degrade odorous gases. Therefore, a biofilter is a living ecosystem of micro-organisms that continually destroy the trace gases. To support this living ecosystem, a biofilter are managed with respect to the correct moisture content, oxygen level, temperature and substrate availability

The air will be cleaned of dust particles, biological particles and trace gas from the composting process. The air essentially contains food which the microbes living on the surface of the woodchip metabolise.

Figure AR2-04: Biofilter configuration.



Media selection is a critical factor in biofilter design. For a biofilter to operate efficiently, the media must provide a suitable environment in which micro-organisms can live and reproduce, have good moisture holding capacity, and have a high porosity for minimal back pressure. Clean woodchip will form the entire media capacity. Woodchip creates enough porosity to allow even circulation of the air volume through the pile.

Biofilter moisture is essential for adequate odour reduction through the biofilter. The high humidity of the air contained in the building provides the biofilters with adequate moisture throughout the year. The biofilter design allows easy access to the media. The media will need to be agitated once every year, and changed every two to three years.

A.10 Emissions and Impact of Emissions

The only emission from the facility is moisture laden air via the biofiltration unit. This emission point (A2-1) is located at grid reference 618887,651964. Emissions from the biofilter will be on continuous basis. The table below shows the parameter and rate of the emission from the biofilter.

Emission Type	**Emission Rate**
Total air flow	38.25 m3/s
Odour	38,250 Oue/s
Aspergillus Fumigatus	45,900 cfu/s
Total Mesophillic	191,250 cfu/s
Total Fungi	382,500 cfu/s

A comprehensive odour and bioaerosols risk assessment was carried out on the proposed development plans by a leading air consultancy. They concluded the following;

1. The overall proposed odour mitigation techniques are based on sound engineering principles and proven design. All such technologies are in operation for the management of odours at many facilities in Ireland. The overall incorporation of robust preventative maintenance procedures, containment measures, focused extraction, zoned ventilation, and treatment will ensure that odours will not cause impact on the surrounding area and that the odour control system will operate at optimal capacity.

2. The Recycling Facility design will ensure compliance with the odour impact criterion contained in *Section 3.9*. All ground level concentration of odours will be less than the ≤ 1.5 Ou_E/m^3 at the 98th percentile of hourly averages and ≤3.0 Ou_E/m^3 for the 99.5th percentile of hourly averages for seven years of meteorological data. The implementation of odour management, minimisation and mitigation techniques and technologies will achieve the odour impact criterion when operating at optimal capacity.

3. The proposed Recycling facility will not cause any bioaerosol impact (Aspergillus *fumigatus*, Total fungi and Total Mesophillic bacteria) as determined using worst-case bioaerosols emission rates and dispersion assessment. All ground level concentration of bioaerosols will be well below the impact criterion proposed by the Environment Agency, UK.

A.11 Midland Waste Management Plan

The Waste Management Plan for the Midlands Region 2005 – 2010 sets the policy objective to 'Support the development of biological treatment facilities in the region that can be shown to be consistent with the overall objectives of the plan and have regard to principles of good siting'

A.12 Noise

As part of the initial environmental impact assessment a detailed baseline noise survey and impact assessment was carried out for the proposed development by a leading environmental consultancy

company. This study found that *'The predicted noise levels indicate that for typical conditions the WHO noise criteria will be met during the day and night time period'*. The report recommended the use of silencers on the aeration fans to reduce the likelihood of complaints.

A.13 Cessation of Activity

As part of the proposed developments planning application a detailed Decommissioning and Site Restoration Plan was drawn up. The purpose of the plan is to keep the facility in a good condition and find an alternative use for the building, should the composting business cease. The building will still maintain value for agricultural and storage purposes.

A.14 Best Available Technology

The proposed composting plant utilises best available technology in emission control with a high specification biofilter that will cover approx. one third of the floor space of the building. This biofilter is considered BAT for the control of odour and bioaerosol emissions for composting plants.

A.15 Fit and Proper Person

Acorn Recycling is a waste management and environmental consultancy company specialising in the management of non-hazardous biological wastes. Managing Director has over 9 years experience in the waste management and composting industry having previously worked as Environmental Manager for McGill Env. Systems Ltd.

None of Acorn Recycling's directors nor any employees have ever been convicted of any offence under the waste management acts 1996-2003, local government (water pollution) acts 1977-1990, Air pollution act 1987, and EPA acts 1992- 2003.

A.16 Monitoring and Sampling Points

Figure WL-05 shows the location of all monitoring and emission points for the proposed development. The proposed monitoring points and sampling schedule is outlined in the tables below. The exact monitoring schedule will be determined by the EPA waste licence.

Air Monitoring

Parameter	Monitoring Frequency	Locations
Dust Deposition (mg/m2/day)	Three times a year	DD1, DD2, DD3, DD4
Aspergillus Fumigatus	Annually	AA1, AA2
PM_{10}(µg/m²/day)	Annually	AA1, AA2

Noise Monitoring

Parameter	Monitoring Frequency	Locations
L(A)eq (30 minutes)	Annual	NSL1, NSL2, BN1, BN2, BN3, BN4
L(A)eq (30 minutes)	Annual	NSL1, NSL2, BN1, BN2, BN3, BN4
L(A)eq (30 minutes)	Annual	NSL1, NSL2, BN1, BN2, BN3, BN4
Frequency Analysis (1/3 Octave band analysis)	Annual	NSL1, NSL2, BN1, BN2, BN3, BN4

Groundwater Monitoring

Parameter	Monitoring Frequency	Locations
General Chemical and Microbiological parameters	Annual	GW1, GW2, GW3

Additional monitoring of composting process and biofilter would also be carried out.

ATTACHED MAPS; WL-02 SITE SERVICES PLAN, WL-03 INTERNAL LAYOUT and WL-05 MONITORING AND EMISSION POINT LOCATOIN MAP.

North N

LEGEND

- Lands under Applicants control (Outline Blue) Area = c. 26.600 Hectares (65.69Acres)
- Proposed Site Boundary Line (Outline Red) Area = c. 3.31 Hectares (8.18Acres)
- Surface Water Line
- Existing Structures
- Spot levels & contours shown
- Existing Hedgerow & Tree Planting
- Proposed Ornamental Tree Planting (see also Landscape Plan in EIS)

ROAD

Sightline setback = 70 metres

Proposed Slipway to be agreed with Roads Department

Site Notice Located Here

New ornamental tree Planting

Approx. location of ESB Substation to ESB requirements & specifications

Refer to O'Neill Ground Water Engineers Report & drawing no. 1020002 for location of drainage ditches

Stockproof fencing

Gated entrance

Proposed site boundary outlined in Red

3m wide "SVEN" Variety of Willow to be planted to both sides of access road, on 3m wide berming. Please refer to Landscaping Plan in Appendix E of the Environmental Impact Report (EIS) for full proposals.

Please refer to drawing no. PL-05 for Access Road details. Weigh bridge to later detail.

Existing Wall

Proposed site boundary outlined in Red

Stockproof fencing

MARSHALING YARD

+29.901

Well No. 2

Existing mature hedgerow & trees to be retained

Stockproof fencing

WILLOW PLANTATION

Well No. 1

Well No. 3

Ballybeg River

Ballybeg River

Ballybeg River

WL-02 - SITE LAYOUT & SERVICES PLAN

1. do not scale from this drawing, use figured dimensions only.
2. all dimensions to be checked on site by the contractor before any work shall commence.
3. inform the architect immediately of any discrepancy.
4. all materials use shall be new and of a suitable nature and quality in relation to the purpose and condition of their use.
5. all materials should be adequately stored or prepared in accordance with the manufacturers written instructions.
6. all materials should be used or fitted so as to perform adequately the function for which they are intended.
7. workmanship on the building site should comply with the requirements of BS 8000.
8. all drawings to be read in conjunction with the civil, M&E, engineers, and sub-contractors drawings, specifications and details.

REV	DATE	DESCRIPTION	INITIAL
*	12-12-07	Issued For Planning	IW
A	15-08-08	Revised for Department of Agriculture	IW
B	29-08-08	Revised for Department of Agriculture & EPA	POM

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Tel: 021-4362857
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BLUETT & O'DONOGHUE; ARCHITECTS
No.1 Chancery St. Dublin 7, Ireland. Tel: 01-8728555 Fax: 01-8728554
No. 2 John Street, Kilkenny, Ireland. Tel: 056-7760999 Fax: 056-7760999

DRAWING TITLE: SITE LAYOUT & SERVICES PLAN

PROJECT: Littleton Recycling Plant

CLIENT: ACORN RECYCLING LTD.

DRAWN BY: IW

SCALE: 1:2500 (1:1000 @ A3)

DATE: December 2007

PROJECT REF: 26034

DWG. NO: WL-02

NOTE: PLEASE REFER TO DRAWINGS NO. S PL-08 FOR OFFICE DEATAILS

NOTE: PLEASE REFER TO ES5 FOR LANDSCAPE PROPOSALS

NOTE: PLEASE REFER TO DRAWING NO. FL-02 FOR SITE PLAN, EXTENT OF PROPOSED DEVELOPMENT & DISTANCES TO BOUNDARIES

Access Road

Raised Landscape Banking with planting to Later detail

OFFICE NO. 1

OFFICE NO. 2

5no. Portaloos with 2m high timber Mi.6 effect fencing with Storage Tank Under

MARSHALING YARD

PRIMARY PROCESSING AREA

AREA OF PROCESS AREA = 2001sqm.
AREA OF BIO-FILTER REQUIRED = 1287sqm. approx.

Wood Waste & Timber Crushing Facility

Tipping Trough

Storage

Loading Bucket Door to Bay

ANIMAL BY PRODUCTS BAY

un-loading Bucket Door to Bay

Mixing conveyor

Access

PRIMARY PROCESSING COMPOST BAYS

SECONDARY PROCESSING COMPOST BAYS

BIO-FILTERS

SECONDARY PROCESSING AREA

OUT

Recycled Material Storage

Automatic Slip doors

Fuel Storage Tank

Escape Exit

Approx. location of Header pipe & feed pipes (shown dotted) to bays located in ground floor slab to later detail.

2.7m approx. High Bay wall

New Structure Shown Hatched

NOTE: PLEASE REFER TO ASP-01 FOR PROPOSED FENCING LAYOUT

Turning Circle

Parking/Fueling

Maintenance Access Road

WILLOW PLANTATION

LEGEND

- New Structure
- RWP Rain Water Pipe
- Aco Drain
- FFL Finished Floor Levels
- Spot Levels Shown
- Direction of Travel

WL-03 INTERNAL LAYOUT PLAN

REV	DATE	DESCRIPTION	INITIAL
P	12.02.07	Issued For Planning	BF
A	11.04.07	Revised For Commencement of Activities	BF
B	09.09.09	Revised for Commencement of Activities	PDH

CRUACH MHOR ENGINEERING LTD.

BLUETT & O'DONOGHUE, ARCHITECTS

INTERNAL LAYOUT PLAN

Lisburn Recycling Plant | ACORN RECYCLING LTD. | WL-03

BF | as shown | December 2007 | 29034

LEGEND

- PROPOSED SITE OUTLINE
- LAND UNDER CLIENTS OWNERSHIP

North

Radius = 250 meters

619017, 652165 DD 4 BN 4

NSL 1
619226, 652054

M S 1 618946, 652065
GW 2 618967, 652055

BN 3
DD 3
618823, 652005

Proposed Recycling Facility

DD1
BN1
618975, 651980

Bio-Filter N1

AA1 618965, 651964

A2-1
618857, 651984

AA2
618867, 651929

GW1 618957, 651929

DD 2
BN 2
GW 3
618800, 651895

WL-05- Monitoring & Emission Point Location Map

Sheet No. Ref. 4818-B, 4818-D

FOR WASTE LICENCE APPLICATION

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DRAWING TITLE: MONITORING & EMISSION POINT LOCATION MAP			
PROJECT: Littleton Recycling Plant		CLIENT: ACORN RECYCLING	DWG. NO: WL-05
DRAWN BY: IW	SCALE: N/A DATE: May 2007	PROJECT REF: 26034	