Attachment B3

Environmental Impact Statement (submitted with original Waste Licence Application in 2005)
Copy of Current Planning Permission 2131/04
Copy of Current Waste Licence W0217-01

042131

PLANNING AND DEVELOPMENT ACT 2000 AND 2001
NOTIFICATION OF DECISION TO GRANT PERMISSION (SUBJECT TO CONDITIONS) UNDER SECTION 34 OF THE ACT

KERRY COUNTY COUNCIL

Ref. No. in Planning Register: **2131/04**

TO: **Sean Murphy, Aghacurreen, Killarney**
Per: **Paudie O'Mahony & Assoc., Grosvenor Court, Upper High St., Killarney**

Documents Recd.: **27/5/2004, 30/8/2004 and 27/10/2004**

In pursuance of the powers, conferred upon them by the above named Acts, Kerry County Council have by Order dated **23rd November, 2004** decided for the reasons set out in the first schedule to grant a permission for the development of land namely:-

In respect of the construction of an extension to existing material recovery facility at Aghacurreen, Killarney, as outlined in plans and particulars received on 27/5/2004 and further information received on 30/8/2004 and 27/10/2004

SUBJECT to the conditions set out in the Second Schedule hereto **(Fourteen Conditions)**

If there is no appeal against the said decision, a grant of permission in accordance with the decision will be issued as soon as possible after the expiration of the period of four weeks (see footnote).

It should be noted that until a **Grant of Permission** has been issued the development in question is **NOT AUTHORISED**.

SIGNED ON BEHALF OF
THE SAID COUNCIL:

A.O. Planning

DATE: **23rd November, 2004**

SCHEDULE (1)

Having regard to the scale of the proposed extension and its relationship with the existing development, it is considered that, subject to compliance with the Conditions set out in the Second Schedule, the proposed development would not seriously injure the visual amenities of the area and would not be contrary to the proper planning and sustainable development of the area.

NOTE: An Appeal against a decision of a Planning Authority under Section 34 or Section 35 of the Act of 2000 may be made to An Bord Pleanala within *four weeks* beginning on the date of the making of the decision by the Planning Authority. *An Appeal to An Bord Pleanala will be invalid unless it is accompanied by the appropriate fee.* **(Please refer to the attached guide for fees payable to An Bord Pleanala).** Appeals should be addressed to: *An Bord Pleanala, 64 Marlborough Street, Dublin 1.* An appeal by the applicant for permission should be accompanied by this form. In the case of an appeal by any other person, the name of the applicant, particulars of the proposed development or structure proposed to be retained and the date of the decision of the Planning Authority should be stated. The acknowledgement of receipt of a valid submission/objection as issued by the Planning Authority should also be submitted with the appeal.

PLANNING AND DEVELOPMENT ACT 2000 AND 2001

Reference No. n
Planning Reg. 2131/04

SCHEDULE (2)

Planning Permission for the construction of an extension to existing material recover facility

1. The development shall be carried out entirely in accordance with the plans and particu ars submitted to the Planning Authority on 27/05/2004 and revised on 30 /08/04 and 27/10/04 excep for any alterations or modifications specified in this decision

   Reason: In the interests of visual amenity.

2. All external finishes shall be neutral in tone, colour and texture.

   Reason: In the interests of visual amenity.

3. The roof of the proposed extension shall match that of the existing structure in design, colour and texture of the covering material. The colour of the roof shall be limited to grey.

   Reason: In the interests of visual amenity.

4. The external finish of the proposed extension shall match the finish of the existing bu lding.

   Reason: In the interests of visual amenity.

5. The applicant shall submit a sample of the proposed metal cladding panels to the Plannin Authority for approval prior to commencement of development.

   Reason: In the interests of visual amenity.

6. Activities on site shall comprise of storage and sorting of materials incidental to the waste recovery facility. This shall exclude manufacturing of final products.

   Reason: In the interests of residential amenity.

7. All effluent from the proposed extension shall discharge to the existing septic tank and pi raflo and shall not pollute any river, stream or acquifer.

   Reason: To safeguard public health.

8. Building for storage and sorting of waste must be enclosed and have doors capable of bei ng closed. No finished materials or materials waiting to be processed shall be stored outside.

   Reason: To safeguard public health.

9. All roof water shall be collected and diverted to surface waters.

   Reason: To safeguard public health.

PLANNING AND DEVELOPMENT ACT 2000 AND 2001

Reference No. in
Planning Reg. 2131/04

10. Any contaminated water as a result of activities at the facility shall be collected and passed through an oil interceptor. The contaminated water shall then receive treatment in a reed-bed treatment plant constructed in accordance with a design agreed with Environment Section. **Details shall be submitted within 4 weeks from the date of this permission**

Reason: To safeguard public health.

11. Foul water or effluent collected from waste within the building shall be collected in the existing underground effluent tank. This effluent shall be treated off-site in the Killarney Wastewater treatment Plant or other treatment plant approved by the Council.

Reason: To safeguard public health.

12. The site shall be landscaped in accordance with a Landscaping plan received on 27/10/04 except for any alterations or modifications specified in this decision. **Details of boundary fencing shall be agreed with the Local Authority prior to constructing it. The landscape plan must address screening along the north western boundary to the satisfaction of the local authority. An amended plan must be submitted within 4 weeks from the date of this permission.**

Reason: In the interests of visual amenity.

13. The applicant shall employ a suitably qualified archaeologist, licensed under the National Monuments Act (1930 – 1994), to carry out pre- development testing at the site and monitor all ground work's associated with the development. Pre – development testing shall consist of the following:

(i) No sub- surface work shall be undertaken in the absence of the archaeologist without his/ her express consent.

(ii) The archaeologist is required to notify Duchas in writing at least four weeks prior to the commencement of site preparations. This will allow the archaeologist sufficient time to obtain a licence to carry out the work.

(iii) The archaeologist shall carry out any relevant documentary research and may excavate test trenches at locations chosen by the archaeologist, having consulted the proposed development plans.

(iv) Having completed the work, the archaeologist shall submit a written report to the Planning Authority and Duchas.

(v) Where archaeological material is shown to be present, avoidance, preservation in situ, preservation by record (excavation) and / or monitoring may be required. Duchas the Heritage Service will advise the Applicant / Developer with regard to these matters.

(vi) No site preparation or construction work shall be carried out until after the archaeologist's report has been submitted and permission to proceed has been received in writing from the Duchas.

(vii) Should archaeological material be found during the course of monitoring, the archaeologist may have work on the site stopped, pending a decision as to how best to deal with the archaeology, (e.g. preservation in situ, or excavation). The developer should be prepared to be advised by the National Monuments Service with regard to any mitigating action (e.g. preservation in situ, or excavation) and shall facilitate the archaeologist in recording any material found.

(viii) The National Monuments Service shall be furnished with a report on the results of the monitoring.

Reason: In the interests of heritage preservation.

PLANNING AND DEVELOPMENT ACT 2000 AND 2001

Reference No. in
Planning Reg. 2131/04

14. Prior to the commencement of development, the developer shall pay a contribution of EUR 37,575 Kerry County Council (Planning Authority) in respect of public infrastructure and facilities benefiting the proposed development, as a special contribution within the meaning of Section 48 (2) (C) of the Planning & Development Act, 2000 towards the cost of implementation of the following schedule of works:-

Proposed Infrastructure and Facilities		*Estimated Cost*
1.	**Overlay of junction accessing development from Local Road L7037.**	**EUR 7,500**
2.	**Widening and strengthening of junction of Local Road L7037 with Local Road L2019 to allow for adequate HGV turning circles.**	**EUR 9,950**
3.	**Overlay of junction of Local Road L7037 with Local Road L2019.**	**EUR 8,525**
4.	**Overlay of segments of Local Road L7037 to facilitate additional HGV traffic.**	**EUR 11,600**

This condition replaces Condition No. 14 and 15 of Grant of Permission for existing development under Planning Reg. 03/337.

Reason: It is considered appropriate that the Developer should contribute towards the cost of public infrastructure and facilities benefiting the development, in accordance with the provisions of Section 48 of the Planning and Development Act, 2000.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

WASTE LICENCE

Waste Licence Register Number:	W0217-01
Licensee:	Killarney Waste Disposal Limited
Location of Facility:	Aughacurreen Killarney County Kerry

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This licence is for the operation of a materials recovery facility. The facility covers an area of approximately 2.2 hectares. The licence allows up to 40,000 tonnes per annum of waste to be processed at the facility.

Only non-hazardous mixed municipal, organic, dry recyclables and construction and demolition waste may be accepted at the materials recovery facility. The materials recovery facility consists of a material recovery building where mechanical segregation of waste types, bulking and storage of waste occurs. Plant to be operated within the materials recovery building includes a bag opener, screener or trommel, ballistic separator, conveyors, picking lines, baler and wrapping machine. Wood waste will be shredded in an enclosed building. A vortex dryer will be operated to treat organic waste. No outdoor processing of waste shall occur. Only wood, metals and masonry wastes/materials will be stored outdoors. Recovered fractions will be sent off-site to other recovery facilities. Residual, non-recoverable waste will be disposed off-site.

The licence sets out in detail the conditions under which Killarney Waste Disposal Limited will operate and manage this facility.

Table of Contents

Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2005 and the Environmental Protection Agency Acts 1992 & 2003, unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Commercial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities, as specified in Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).

DO	Dissolved Oxygen.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EIS	Environmental Impact Statement.
EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in *Schedule B: Emission Limits*, of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
HFO	Heavy Fuel Oil.
Hours of Operation	The hours during which the facility is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: a) an emergency; b) any emission which does not comply with the requirements of this licence; c) any exceedence of the daily duty capacity of the waste handling equipment; d) any trigger level specified in this licence which is attained or exceeded; and, e) any indication that environmental pollution has, or may have, taken place.

Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 and 2003 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilo Pascals.
Landfill Directive	Council Directive 1999/31/EC.
Leq	Equivalent continuous sound level.
Licensee	Killarney Waste Disposal Limited, Aughacurreen, Killarney, County Kerry.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Kerry County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Municipal waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.
Night-time	2200 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance.

PER	Pollution Emission Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled.
Regional Fisheries Board	South Western Regional Fisheries Board.
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SOP	Standard Operating Procedure.
Standard Method	A National, European or internationally recognised procedure (eg, I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
Storm Water	Rain water run-off from roof and non-process areas.
Temporary storage	In relation to waste is a period of less than six months as defined in the Waste Management Acts 1996 to 2005.
The Agency	Environmental Protection Agency.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the water pollution Acts 1977 and 1990.
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
WEEE	As defined in S.I. No. 340 of 2005.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste Water Treatment Plant.

Decision & Reasons for the Decisions

Reasons for the Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant, an objection and the reports of its inspectors.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005, the Environmental Protection Agency (the Agency), under Section 40(1) of the said Act hereby grants this Waste Licence to Killarney Waste Disposal Limited, Aughacurreen, Killarney, County Kerry to carry on the waste activities listed below at Aughacurreen, Killarney, County Kerry subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005

Class 11.	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 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.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2005

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
Class 3.	Recycling or reclamation of metals and metal compounds.
Class 4.	Recycling or reclamation of other inorganic materials.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
Class 12.	Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
Class 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.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

1.1 Waste activities at this facility shall be restricted to those listed and described in Part I Activities Licensed and shall be as set out in the licence application or as modified under Condition 1.5 of this licence and subject to the conditions of this licence.

1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations,* of this licence.

1.3 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.

1.4 For the purposes of this licence, the facility authorised by this licence is the area of land outlined in red on Drawing No. DG0003-01 of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.

1.5 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in

(a) a material change or increase in:

- The nature or quantity of any emission,
- The abatement/treatment or recovery systems,
- The range of processes to be carried out,
- The fuels, raw materials, intermediates, products or wastes generated, or

(b) any changes in:

- Site management infrastructure or control with adverse environmental significance,

shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.

1.6 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2005 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.7 This licence has been granted in substitution for the waste permit granted to the licensee by Kerry County Council. The waste permit for the facility ceases to have effect on date of grant of licence.

1.8 Waste Acceptance Hours and Hours of Operation

1.8.1 With the exception of emergencies or as may be agreed by the Agency, waste shall be accepted at or despatched from the facility only between the hours of 0730 hrs to 1930 hrs Monday to Saturday inclusive.

1.8.2 The facility shall be operated only during the hours of 0700 hrs to 2000 hrs Monday to Saturday inclusive.

1.8.3 The facility shall not operate or accept/despatch waste on Sundays or on Bank Holidays without the agreement of the Agency.

Reason: To clarify the scope of this licence.

Condition 2. Management of the Facility

2.1 Facility Management

2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.

2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence. In addition, the facility manager and his/her deputy shall successfully complete FAS waste management training programme or equivalent agreed by the Agency within twelve months of date of grant of this licence.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS) within six months of the date of grant of this licence. The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include as a minimum the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall prepare a Schedule of Environmental Objectives and Targets. The Schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction targets. The Schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The Schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall, not later than six months from the date of grant of this licence, submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be established and maintained by the licensee. It shall include:

(a) designation of responsibility for targets;

(b) the means by which they may be achieved;

(c) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER) (Condition 11.8).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

(i) The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined

2.2.2.6 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

2.2.2.8 Maintenance Programme

The licensee shall establish and maintain within six months of the date of grant of this licence a structured programme for maintenance and service of vehicles and equipment. This programme shall be supported by appropriate record keeping systems and diagnostic testing.

Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

Condition 3. Infrastructure and Operation

3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as required by the conditions of this licence.

3.2 Facility Notice Board

3.2.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility within twelve months of date of grant of this licence. The minimum dimensions of the board shall be 1200 mm by 750 mm.

3.2.2 The board shall clearly show: -

a) the name and telephone number of the facility;

b) the normal hours of opening;

c) the name of the licence holder;

d) an emergency out of hours contact telephone number;

e) the licence reference number; and

f) where environmental information relating to the facility can be obtained.

3.2.3 A plan of the facility clearly identifying the location of each storage and treatment area shall be displayed as close as is possible to the entrance to the facility. The plan shall be displayed on a durable material such that it is legible at all times. The plan shall be replaced as material changes to the facility are made.

3.3 Facility Security

3.3.1 Security and stockproof fencing and gates of adequate height and suitable material, shall be installed and maintained within six months of date of grant of licence. The base of the fencing shall be set in the ground.

3.3.2 Gates shall be locked shut when the facility is unsupervised.

3.3.3 The licensee shall remedy any defect in the gates and/or fencing as follows:-

(i) a temporary repair shall be made by the end of the working day;

and

(ii) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.3.4 The licensee shall install a CCTV system, which records all truck movement into and out of the facility. The CCTV system shall be operated during the period referred to in condition 1.8.2. Copies of recordings shall be kept on site for such period as may be agreed with the Agency and made available to the Agency on request.

3.4 Facility Roads and Site Surfaces

3.4.1 Effective site roads shall be provided and maintained to ensure the safe and nuisance free movement of vehicles within the facility.

3.4.2 The licensee shall provide, and maintain an impermeable concrete surface in the areas of the facility shown on Drawing No. 02-034-J4-MCOS2F03. In addition, the floor of the buildings and specified areas at the facility shall be concreted and constructed to British Standard 8110. The licensee shall remedy any defect in concrete surfaces within five working days.

3.5 Facility Office

3.5.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storage of documentation.

3.5.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information to the Agency at the facility.

3.6 Waste Inspection and Quarantine Areas

3.6.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained within the materials recovery building.

3.6.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.

3.6.3 Drainage from these areas shall be directed to the process effluent holding tank within the materials recovery building.

3.7 Weighbridge and Wheel Cleaners

3.7.1 The licensee shall provide and maintain a weighbridge and wheel cleaners at the facility. Wheel cleaners shall be installed within twelve months of date of grant of this licence.

3.7.2 The wheel cleaners shall be used by all vehicles leaving the facility as required to ensure that no trade effluent/storm water or waste is carried off-site. All water from the wheel cleaning area shall be directed to trade effluent drainage network.

3.7.3 The wheel cleaners shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of appropriately.

3.8 Waste handling, ventilation and processing plant

3.8.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including *inter alia* waste loading vehicles and ejector trailers) shall be provided on the following basis: -

(i) 100% duty capacity;

(ii) 20% standby capacity available on a routine basis; and

(iii) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment

3.8.2 The licensee shall, within three months from the date of grant of this licence, provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per *Schedule A: Limitations,* of this licence.

3.8.3 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.

3.9 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.10 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency within six months of date of grant of this licence.

3.11 Tank, Container and Drum Storage Areas

3.11.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein within six months of date of grant of this licence. Bunds should be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.11.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-

(i) 110% of the capacity of the largest tank or drum within the bunded area; or

(ii) 25% of the total volume of substance which could be stored within the bunded area

3.11.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

3.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.11.5 The integrity and water tightness of all the bunding structures, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee prior to use and thereafter at least once every three years. This testing shall be carried out in accordance with any guidance published by the Agency.

3.11.6 All tanks, containers and drums shall be labelled to clearly indicate their contents.

3.12 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.

3.13 Storm Water

3.13.1 Roof water drainage from the materials recovery building shall discharge to land drains at two outfall points as shown in Drawing No. 02-034-J4-MCOS2F03.

3.13.2 Storm water drainage from impermeable areas shall be directed to the storm water drainage and treatment system as described in Attachment D.1.K of the application and Drawing No. 02-034-J4-MCOS2F03.

3.14 Silt Traps and Oil Separators

The licensee shall install (within six months of date of grant of licence) and maintain a silt trap and an oil separator at the facility to ensure that all storm water discharges to emission point SW1 passes through a silt trap and oil separator prior to discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids). The location of SW1 is to be agreed with the Agency prior to construction of the storm water management system.

3.15 Process Effluent

3.15.1 Process effluent shall be initially collected and stored, prior to disposal off-site, in an effluent holding tank located within the materials recovery building. The effluent holding tank shall be installed and maintained as described in the application and having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004). Process effluent shall be transported off-site in fully enclosed road tankers to an appropriately authorised facility.

3.15.2 The licensee shall, within six months of date of grant of licence, ensure that six-week effluent storage capacity is provided or equivalent measures are undertaken. The licensee shall, within three months of date of grant of licence, submit for agreement by the Agency, proposals to meet this requirement having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.15.3 The licensee shall decommission within six months of date of grant of licence the underground effluent holding tank of 4.55m^3 capacity shown on Drawing No. 02-034-J4-MCOS2F03.

3.16 Dust and Odour

The licensee shall, within three months of the date of grant of this licence, install and provide adequate measures for the control of odours and dust emissions, including fugitive dust emissions, from the facility. Such measures shall at a minimum include the following:-

(i) Dust canopies shall be maintained on the fines waste collection/storage bay.

(ii) Other such measures as maybe required by the Agency to alleviate dust or odour nuisance.

3.17 All waste processing operations shall be carried out within the materials recovery building or a dedicated building (with respect to waste wood shredding operations). All wastes/materials shall be stored within the materials recovery building except wood, metals and masonry wastes/materials, which can be stored in the open yard.

3.18 All pump sumps, storage tanks, effluent holding tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate) within six months from the date of grant of this licence.

3.19 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

3.20 The licensee shall, within three months of the date of grant of this licence, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

3.21 The licensee shall, within three months of date of grant of licence, submit proposals for the installation of groundwater monitoring borehole(s) for agreement by the Agency. At least one borehole shall be located down gradient (in relation to groundwater flow) of the facility. The proposal shall be implemented within such a period to be agreed by the Agency.

3.22 An appropriately sized septic tank, puraflo and percolation area shall be installed, operated and maintained in accordance with the EPA guidance on treatment systems.

Reason: To provide for appropriate operation of the facility to ensure protection of the environment.

Condition 4. Interpretation

4.1 Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:-

4.1.1 Continuous monitoring:

(i) No flow value shall exceed the specified limit.

(ii) No pH value shall deviate from the specified range.

(iii) No temperature value shall exceed the limit value.

4.1.2 Composite Sampling:

(i) No pH value shall deviate from the specified range.

(ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.

4.1.3 Discrete Sampling

For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.

4.2 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.

4.3 Noise

Noise from the facility shall not give rise to sound pressure levels (Leq, 30 minutes) measured at the boundary of the facility which exceed the limit value(s).

4.4 Dust and Particulate Matter

Dust and particulate matter from the activity shall not give rise to deposition levels, which exceed the limit value(s).

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.

5.2 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, and/or significant interference with amenities or the environment beyond the facility boundary.

5.3 No substance shall be discharged in a manner or at a concentration which, following initial dilution, causes tainting of fish or shellfish.

5.4 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.

5.5 Emissions to air from the vortex dryer at emission point reference number A5 in the Materials Recovery Building shall be discharged at a minimum height of 10m above ground level.

Reason: To provide for the protection of the environment by way of control and limitation of emissions.

Condition 6. Control and Monitoring

6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring* of this licence:

6.1.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.

6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.

6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.1.4 Where analysis is sub-contracted it shall be to a competent laboratory.

6.2 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

6.3 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.

6.4 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.

6.5 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.

6.6 Sampling and analysis of all pollutants as well as reference measurement methods to calibrate automated measurement systems shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply.

6.7 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

6.8 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions. This programme shall be included in the Environmental Management Programme.

6.9 All tanks and pipelines shall be maintained impervious to the materials conveyed or stored therein. The integrity and water tightness of all underground pipes and tanks and their resistance to penetration by water or other materials conveyed or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

6.10 Process Effluent

The drainage system, bunds and effluent tank shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.

6.11 Storm water

6.11.1 A visual examination of the storm water discharge shall be carried out daily. A log of such inspections shall be maintained.

6.11.2 The drainage system, bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.

6.12 Noise

6.12.1 The licensee shall carry out a noise survey of the site operations biannually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

6.12.2 The licensee shall establish and maintain best work practices for the control of noise emissions from the site.

6.12.3 The licensee shall within 13 months of the date of grant of this licence prepare a programme, based on the findings of the surveys referred to in Condition 6.12.1 above, to the satisfaction of the Agency, for the identification and reduction of noise emissions. This programme shall be included in the Environmental Management Programme.

6.13 Nuisance Monitoring

The licensee shall, at a minimum of one-week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours. A log of such inspections shall be maintained.

6.14 Monitoring Locations

The licensee shall, within three months of the date of grant of this licence, submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations and emission points that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring and emission point and the eight-digit national grid reference of each monitoring and emission point. Revised drawings shall be submitted as part of any agreements or variations in monitoring arrangements agreed with the Agency.

6.15 Litter Control

6.15.1 The measures described in Attachment E6 of the licence application shall be applied to control litter at the facility.

6.15.2 All loose litter or other waste from the carrying on of the waste activities, arising on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed, subject to the agreement of the landowners, immediately and in any event by 1000 hrs of the next working day after such waste is discovered.

6.15.3 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

6.16 Dust/Odour Control

6.16.1 All waste for disposal and malodorous waste stored overnight at the facility shall be stored within the materials recovery building or in suitably covered and enclosed containers, and shall be removed from the facility within forty eight hours, except at Bank Holiday weekends. At Bank Holiday weekends, waste for disposal shall be removed within seventy-two hours of its arrival on site.

6.16.2 Areas where there is a potential for generation of odour (temporary storage area, skips, bins) shall be covered.

6.16.3 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

6.16.4 Access roads and hardstanding areas shall be swept regularly.

6.16.5 All plant and equipment shall be maintained to minimise dust and odour generation.

6.16.6 All stockpiles of materials/wastes shall be maintained so as to minimise dust generation.

6.17 Operational Controls

6.17.1 The floor of the materials recovery building handling mixed municipal waste shall be cleared of all waste at the end of the working day. The floor shall be washed on a weekly basis and as necessary to meet the conditions of the licence. The floor of the storage bays for recovered wastes shall be washed down and cleaned on each occasion such bays are emptied.

6.17.2 Scavenging shall not be permitted at the facility.

6.17.3 All tanks and drums shall be labelled to clearly indicate their contents.

6.18 Vermin and Flies

The licensee shall, within three months of date of grant of licence, establish and maintain a programme for the control and eradication of vermin and fly infestations at the facility to the satisfaction of the Agency. The programme should include as a minimum, operator training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

6.19 Test Programme

6.19.1 The licensee shall prepare, to the satisfaction of the Agency, a test programme for abatement equipment installed on the vortex dryer. This programme shall be submitted to and agreed by the Agency, prior to implementation.

6.19.2 This programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.

6.19.3 The criteria for the operation of the abatement equipment as determined by the test programme, shall be incorporated into the standard operating procedures as approved by the Agency in *Schedule B: Emission Limits*, of this licence.

6.20 The test programme shall include as a minimum, the following:

6.20.1 Establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence.

6.20.2 Assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.

6.20.3 A report on the test programme shall be submitted to the Agency within one month of completion.

6.21 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency; "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.

7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.

7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: To provide for the efficient use of resources and energy in all site operations.

Condition 8. Materials Handling

8.1 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.3 The licensee shall ensure that waste, prior to transfer to another person, shall be classified packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.

8.4 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run – off.

8.5 Waste shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.

8.6 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery without the agreement of the Agency.

8.7 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring,* of this licence.

8.8 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.

8.9 Waste Acceptance and Characterisation Procedures

8.9.1 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued in accordance with Regulations made under the Waste Management Acts 1996 to 2005. Copies of these waste collection permits must be maintained at the facility.

8.9.2 Within three months of the date of grant of this licence, the licensee shall establish and maintain detailed written procedures for the acceptance and handling of wastes.

8.9.3 Waste arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the materials recovery building. Each load of waste arriving at the materials recovery building shall be inspected upon tipping within this

building. Only after such inspections shall the waste be processed for disposal or recovery.

8.9.4 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in a designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.

8.9.5 Waste shall be accepted at the facility only from known customers or new customers subject to initial waste profiling and waste characterisation off-site. The written records of this off-site waste profiling and characterisation shall be retained by the licensee for all active customers and for a two year period following termination of licensee/customer agreements. There shall be no casual public access to the facility.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

9.1 The licensee shall, within six months of date of grant of this licence, ensure that a documented Accident Prevention Policy is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

9.2 The licensee shall, within six months of date of grant of this licence, ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

9.3 In the event of an incident the licensee shall immediately:-

(i) isolate the source of any such emission;

(ii) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;

(iii) evaluate the environmental pollution, if any, caused by the incident;

(iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;

(v) identify the date, time and place of the incident:

(vi) provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency to:-

- identify and put in place measures to avoid reoccurrence of the incident; and
- identify and put in place any other appropriate remedial action.

(vii) notify any other appropriate Agency or Authority.

Reason: To provide for the protection of the environment.

Condition 10. Closure, Restoration and Aftercare

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution. The licensee shall carry out such tests, investigation or submit certification, as requested by the Agency, to confirm that there is no risk to the environment.

Reason: *To make provision for the proper closure of the activity ensuring protection of the environment.*

Condition 11. Notifications, Records and Reports

11.1 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:

11.1.1 Any release of environmental significance to atmosphere from any potential emission point including bypasses.

11.1.2 Any emission which does not comply with the requirements of this licence.

11.1.3 Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring,* of this licence which is likely to lead to loss of control of the abatement system.

11.1.4 Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

11.1.5 Any breach of the high liquid level alarm in the effluent holding tanks as referred to in Condition 3.18.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

11.2 In the event of any incident which relates to discharges to sewer, having taken place, the licensee shall notify the Local and Sanitary Authority as soon as practicable, after such an incident.

11.3 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the South Western Regional Fisheries Board as soon as practicable after such an incident.

11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to; manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.

11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.

11.7 The licensee shall as a minimum keep the following documents at the site:-

11.7.1 the licences relating to the facility;

11.7.2 the current EMS for the facility;

11.7.3 the previous year's AER for the facility;

11.7.4 records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;

11.7.5 relevant correspondence with the Agency;

11.7.6 an up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points,

and this documentation shall be available to the Agency for inspection at all reasonable times.

11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report,* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:

11.9.1 The tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery.

11.9.2 The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).

11.9.3 Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.

11.9.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.

11.9.5 Details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record.

11.9.6 Details of any rejected consignments.

11.9.7 Details of any approved waste mixing.

11.9.8 The results of any waste analyses required under *Schedule C: Control & Monitoring,* of this licence.

11.9.9 The tonnages and EWC Code for the waste materials recovered/disposed on-site.

11.10 A record shall be kept of each consignment of process effluent removed from the facility. The record shall include the following:-

(i) the name of the carrier;

(ii) details of the ultimate disposal/recovery destination;

(iii) the date and time of removal of process effluent from the facility;

(iv) the volume of process effluent in cubic metres, removed from the facility on each occasion;

(v) any incidents or spillages of process effluent during its removal or transportation.

11.11 Waste Recovery Report

The licensee shall as part of their EMP prepare a report examining waste recovery options. The report shall be submitted to the Agency for its agreement in the AER. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:-

(i) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill as specified in the Landfill Directive;

(vi) the separation of recyclable materials from the waste;

(vii) the recovery of Construction and Demolition Waste;

(viii) the recovery of metal waste and WEEE.

11.12 A record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. A report on programme shall be prepared and submitted to the Agency as part of the AER.

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €11,660, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2005. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2005, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying on of the activity.

Reason: *To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

SCHEDULE A: Limitations

A.1 Authorised Processes

The following waste related processes are authorised:

i. The sorting and separation of waste to recover organic substances such as paper and cardboard, plastics, wood, and biodegradable waste (kitchen and canteen waste).
ii. Sorting of metals from other wastes.
iii. Sorting, separation and processing of mixed municipal waste, separately collected dry recyclables and non-hazardous Construction & Demolition waste to recover organic substances, inorganic materials and metals.
iv. The drying of organic substances.
v. The shredding of wood.
vi. The baling, wrapping and placing of waste into containers or trailers prior to submission to a recycling facility.
vii. The exchange of recycling at the facility.
viii. The mixing and baling of wastes prior to transfer to another facility for disposal.
ix. Storage of waste prior to recovery/disposal off-site

No addition to these processes is permitted unless agreed in advance with the Agency.

A.2 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPE Note 1	MAXIMUM (TONNES PER ANNUM) Note 2
Mixed municipal waste	15,500
Organic waste (kitchen and canteen waste)	6,000
Dry recyclable wastes	6,500
Non-Hazardous Construction and Demolition (C&D)	12,000
TOTAL	40,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within that specified.

Note 2: The individual limitation on waste streams may be varied with the agreement of the Agency subject to the overall total limit staying the same.

SCHEDULE B: Emission Limits

B.1 Emissions to Air

Emission Point Reference No.: A5

Location: Vortex dryer in the materials recovery building

Volume to be emitted: Maximum in any one day: 86,400 m^3

Maximum rate per hour: 7,200 m^3

Minimum discharge height: 10 m above ground

Parameter	Emission Limit Value
Particulates	20 mg/m^3
Total Amines	10 mg/m^3
Ammonia	50 ppm v/v
Hydrogen sulphide and mercaptans (total)	5 ppm v/v

B.2 Emissions to Water

There are no Emissions to Water of environmental significance.

B.3 Emission to Sewer

There are no Process Effluent Emissions to Sewer.

B.4. Noise Emissions

Daytime dB L_{Aeq} (30 minutes)	Night-time dB L_{Aeq} (30 minutes)
55 Note 1	45 Note 1

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at noise sensitive locations.

B.5. Ambient Air Limits

Parameter	Emission Limit Value
Total dust deposition	350 mg/m^2/day Note 2
Fine particulates (PM_{10})	50 ug/m^3/day

Note 1: As measured at the boundary of the facility.
Note 2: 30 day composite sample with the results expressed as mg/m^2/day.

SCHEDULE C: Control & Monitoring

C.1.1 Control of Emissions to Air

Emission Point Reference No.: A5

Description of Treatment: Air filtration

Control Parameter Note 1	Monitoring Note 1	Key Equipment Note 1 + 2
Compressed air	As required	Solenoid/diaphragm valve
Particulates	As required	Cartridge filter

Note 1: Subject to Condition 6.19 and 6.20
Note 2: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2 Monitoring of Emissions to Air

Emission Point Reference No.: A5

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	Biannually	Isokinetic/Gravimetric
Total Amines	Biannually	NIOSH Method 2010
Ammonia	Biannually	To be agreed by the Agency
Hydrogen sulphide and mercaptans	Biannually	To be agreed by the Agency

C.2.1 Control of Emissions to Water

There are no Emissions to Water of environmental significance.

C.2.2 Monitoring of Emissions to Water

There are no Emissions to Water of environmental significance.

C.2.3 Monitoring of Storm Water Emission

Emission Point Reference No.: R1, R2 and SW1

Parameter	R1, R2 Monitoring Frequency	SW1 Monitoring Frequency	Analysis Method/Technique
pH	Annually	Weekly	pH electrode/meter
Conductivity	Annually	Weekly	Standard Method
Suspended Solids	Annually	Weekly	Standard Method
Total Ammonia (as N)	Annually	Weekly	Standard Method
Sulphate	Annually	Weekly	Standard Method
Chloride	Annually	Weekly	Standard Method
Heavy metals Note 1	Annually	Biannually	Atomic Absorption/ICP
Visual Inspection	Weekly	Daily	Sample and examine for colour and odour

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin.

C.3.1 Control of Emissions to Sewer

There are no Process Effluent Emissions to Sewer.

C.3.2 Monitoring of Emissions to Sewer

There are no Process Effluent Emissions to Sewer.

C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Process effluent **Other** Note 1	Annually	Chemical characterisation (BOD, COD, ammonia, nitrogen, sulphate, chloride organics, metals, other)	To be agreed by the Agency

Note 1: Analytical requirements to be determined on a case by case basis.

C.5 Noise Monitoring

There is no additional noise monitoring required in this schedule.

C.6 Ambient Monitoring

Air Monitoring

Location: At least three points on the boundary.

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Quarterly	VDI method 2119 part 2 (Bergerhoff Gauge)
Fine particulates	As required	prEN12341 method
Airborne Micro-Organisms	As required	Standardised Protocol [Note 1]

Note 1: Monitoring to be completed as per "The Composting Association" publication "Standardised Protocol for the Sampling and Enumeration of Airborne Micro-Organisms at Composting Facilities".

Receiving Water Monitoring

Location: Site B (just upstream of site boundary)
Site D (just downstream of facility)

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Biannually	pH electrode/meter
Conductivity	Biannually	Standard Method
Ammonia	Biannually	Standard Method
Visual inspection	Weekly	Sample and examine for colour and odour

Groundwater Monitoring

Location: To be agreed by the Agency and specified on drawing as required under Condition 6.14

Parameter	Monitoring Frequency	Analysis Method/Technique
Total Ammonia (as N)	Biannually	Standard Method
Nitrates (as N)	Biannually	Standard Method
Conductivity	Biannually	Standard Method
Chloride	Biannually	Standard Method
Sulphates	Biannually	Standard Method
Diesel range organics	Biannually	To be agreed by the Agency

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content
Emissions from the facility.
Waste management record.
Resource consumption summary.
Complaints summary.
Schedule of Environmental Objectives and Targets.
Environmental management programme – report for previous year.
Environmental management programme – proposal for current year.
Pollution emission register – report for previous year.
Pollution emission register – proposal for current year.
Noise monitoring report summary.
Ambient monitoring summary.
Tank and pipeline testing and inspection report.
Reported incidents summary.
Energy efficiency audit report summary.
Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.
Report on progress made and proposals being developed to minimise water demand and the volume of process effluent discharge.
Development / Infrastructural works summary (completed in previous year or prepared for current year).
Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities)
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Sealed by the seal of the Agency on this the 1 day of August, 2006

PRESENT when the seal of the Agency
was affixed hereto:

Padraic Larkin, **Director/Authorised Person**

B.4 Sanitary Authority

In the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority or other body, give the name of the sanitary authority in which the sewer is vested or b which it is controlled and the waste water treatment plant (if any) to which the sewer discharges.

Name:	Tralee Wastewater Treatment Plant
Address:	Kerry County Council,
	Rathass,
	Tralee,
	Co. Kerry.
Tel:	066 – 7183582
Fax:	066 – 7120328

The applicant must enclose, as **Attachment B.4,** a copy of any effluent discharge licence and/or agreement between the applicant and the body with responsibility for the sewer.

B.5 Other Authorities

The applicant should tick the appropriate box below to identify whether the activity is located within the Shannon Free Airport Development Company (SFADCo.) area.

Within SFADCo. Area	**Yes** ☐	**No** ☒

The applicant should indicate the **Health Board Region** where the activity is or will be located.

Name:	HSE South
Address:	Regional Health Office South,
	Aras Sláinte,
	Wilton Road, Cork.
Tel:	021 – 492 3607
Fax:	021 – 454 5748

B.6 Notices and Advertisements

Articles 6 and 7 of the Waste Management (Licensing) Regulations 2004 requires all applicants to advertise the application in a newspaper and by way of a site notice. See *Guidance Note.*

Attachment B.6 should contain a copy of the site notice and an appropriately scaled drawing (≤A3) showing its location on site. **The original application must include the complete newspaper in which the advertisement was placed.** The relevant page of the newspaper containing the advertisement should be included with the original and three copies of the application.

B.7 Type of Waste Activity, Tonnages & Fees

B.7.1 Specify the class or classes of activity in Table B.7.1, in accordance with the Third Schedule or Fourth Schedule to the Waste Management Acts 1996 to 2003, to which the application relates (check the relevant box(es) and mark the principal activity with a 'P').

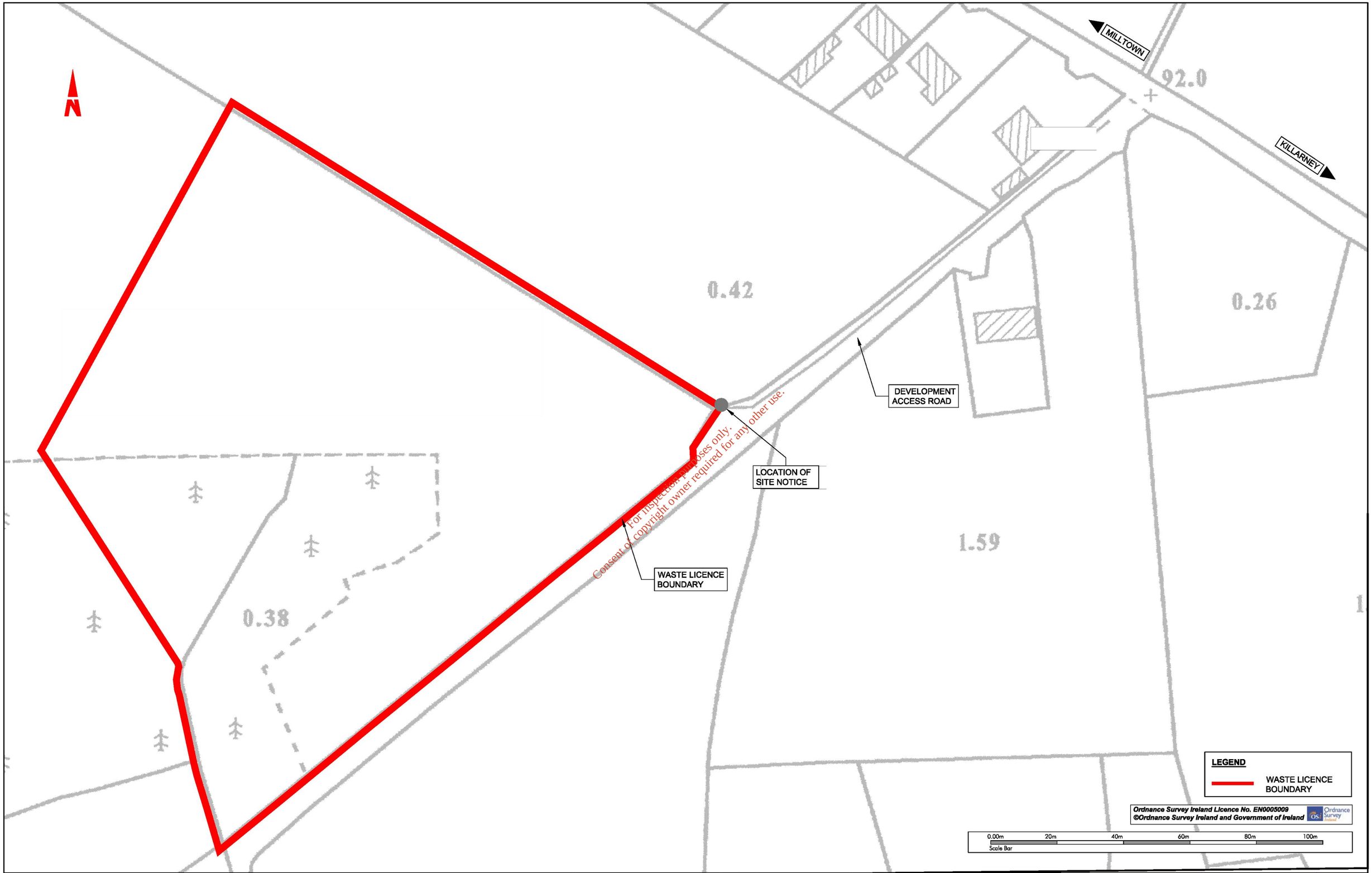
Attachment B.7 should identify the principle activity and include a brief technical description of each of the other activities specified. **There can only be one principal activity.**

TABLE B.7.1 THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2003

Waste Management Acts 1996 to 2003			
THIRD SCHEDULE Waste Disposal Activities	**Y/N**	**FOURTH SCHEDULE Waste Recovery Activities**	**Y/N**
1. Deposit on, in or under land (including landfill).		1. Solvent reclamation or regeneration.	
2. Land treatment, including biodegradation of liquid or sludge discards in soils.		2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).	P
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring repositories.		3. Recycling or reclamation of metals and metal compounds.	X
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.		4. Recycling or reclamation of other inorganic materials.	X
5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.		5. Regeneration of acids or bases.	
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.		6. Recovery of components used for pollution abatement.	
7. Physico-chemical 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 8 to 10 of this Schedule (including evaporation, drying and calcination).		7. Recovery of components from catalysts.	
8. Incineration on land or at sea.		8. Oil re-refining or other re-uses of oil.	
9. Permanent storage, including emplacement of containers in a mine.		9. Use of any waste principally as a fuel or other means to generate energy.	
10. Release of waste into a water body (including a seabed insertion).		10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.	
11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	X
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	X
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.	X	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.	X

Attachment B6

Location of Site Notice DG0033-01F01
Newspaper Advertisement
Site Notice
Correspondence notifying the Planning Authority



KWD RECYCLING

Killarney Waste Disposal Ltd.
Aughacureen, Killarney, Co. Kerry.
Tel: Killarney 064-32458, Tralee 066-7128850 | Fax: 064-38661

NOTES

1. This drawing is the property of RPS Consulting Engineers it is a confidential document and must not be copied, used, or its content divulged without prior written consent.
2. DO NOT SCALE, use figured dimensions only, if in doubt ask.
3. Levels are in metres to local datum.

No.	Date	Dn. / Chk.	Amendment / Issue	App
F01	05.07.10	A.N. / S.G.	Waste Licence Application	W.M.

Client: KILLARNEY WASTE DISPOSAL LTD.

Drawn By	Checked By	Approved By	Date
A.N.	S.G.	W.M	July '10

RPS
Lyr Building, IDA Business & Technology Park, Mervue, Galway
T +353 91 534100
F +353 91 534199
W www.rpsgroup.com/ireland
E ireland@rpsgroup.com

Drawing Number: MGE0109/DG0033-01
Rev: F01

Project: WASTE LICENCE REVIEW APPLICATION

Title: LOCATION OF SITE NOTICE (Sheet 1 of 1)

Drawing Status	Scale / Sheet Size	
PLANNING	1:500 @ A1	1:1000 @ A3

MGE0109DG0033.dwg

Seb fears Spain pain

German ace so wary

IAN LADYMAN reports from Durban

INFLUENTIAL German midfielder Sebastien Schweinsteiger believes that

NIGEL BALLANTINE'S WORLD OF BETTING

Another dud – but there's always golf

APOLOGIES from the outset but I'm going to have a right old whinge here. My problem is that this World Cup hasn't quite done it for me — and that's not because I picked Brazil and Spain to meet in the final.

World Cups are supposed to be the making of icons. This one has failed miserably with flops such as Messi, Ronaldo, Rooney and Kaka all falling short.

Too much cheating, too much diving and feigning injury (hello, Arjen Robben); too

Rivelino, Gerson and Carlos Alberto.

Then came 1974's Total Football from the Dutch and Johan Cruyff's breathtaking turn which still couldn't outwit Franz Beckenbauer, Gerd Muller et al.

The Dutch were back four years later but it was Kempes, Luque and Tarantini who

Big Jack's Ireland side made it through to the last eight without winning a match.

USA '94 was not all about a drug-fuelled Maradona. We also had Ray Houghton's goal, the brilliance of Hristo Stoichkov and Roberto Baggio's costliest of penalty misses.

France '98 didn't

DON'T count your chickens on the Dutch just yet. Remember Euro 2008 when they hammered world champions Italy and France, only to

CLASSIFIED

PLANNING APPLICATIONS

FINGAL COUNTY COUNCIL.Ann Acheson intends to apply for planning permission for the following:- (i) Demolition of single storey extension to the rear and side and first floor sun lounge to the side, and the construction of small three storey extension to rear and side, and the extension of ground, first and second floor(i.e. roof level) to provide habitable space, including a small increase in roof height; (ii) change of use of extended building to two dwelling units as follows - (a) own door ground floor apartment (204 sq.m.), and (b) own door duplex apartment at first floor and roof levels, with balcony at roof level (334 sq.m.); (iii) provision of two car parking spaces, and separate private open space, for each of the two dwellings, and (iv) all site development works associated with the proposed development including fences, wall, drainage and soft and hard landscaping. at Strand Lodge, Claremont Road, Howth, Co. Dublin. The planning application may be inspected, or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of the planning authority (Fingal Co. Co., County Hall, Main Street, Swords, between the hours of 9.30 and 15.30, from Monday to Friday (excluding bank holidays), and that a submission or observation in relation to the application may be made to the authority in writing on payment of the prescribed fee (€20) within the period of five weeks beginning on the date of receipt by the authority of the application.

DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL. Planning Permission is sought, on behalf of B. O'Gorman and M. Kennedy, for (a) 8.8 sq. m. single storey Extension, to front, with bay window and verandah, (b) new bullseye window and enlargement of existing window, to front at First Floor Level, (c) blocking up existing window on West Elevation, (d) raising window cill on East Elevation, (e) replacing glazed conservatory style roof to rear with zinc covered roof, to same pitch, (f) replacing windows in existing opes, (g) internal alterations and (h) all other associated site works, at 9 Holmston Avenue, Glenageary, Co. Dublin. The Planning Application may be inspected or purchased, at a fee not exceeding the reasonable cost of making a copy, at the offices of the Planning Authority, County Hall, Dun Laoghaire, during its public opening hours - 10.00 am - 4.00 pm, Monday to Friday, excluding Public Holidays. A submission / observation in relation to the Application may be made to the Authority in writing on payment of a fee of €20 within the period of 5 weeks beginning on the date of receipt by the Authority of the Application.

DUBLIN CITY COUNCIL. We Éanna Ó Conghaile and Katie Connolly will be making a planning application for permission for a development at 8 Wilfrid Road Road, Harolds Cross, Dublin 6W. The development consists of the demolition of an existing single storey lean to to the rear (to facilitate a new single storey exempted development). The planning application may be inspected, or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of Dublin City Council during its public opening hours and a submission or observation in relation to the application may be made to the authority in writing on payment of the prescribed fee within the period of 5 weeks beginning on the date of receipt by the authority of the application.

DÚN LAOGHAIRE RATHDOWN COUNTY COUNCIL. Permission is sought for increasing the entrance, driveway and the erection of new gates and pier at Slievemoyne, Dundrum Road, Dublin 14 for Marian and John Deaton. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority, County Hall, Dun Laoghaire, during its public opening hours - 10.00a.m. - 4.00p.m. Mmonday to Friday, excluding public holidays. A submission / observation may be made on payment of €20 within a period of 5 weeks from the date the application is received by the planning authority.

DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL. Permission is sought for: the demolition of the existing single storey extension to the rear containing a Kitchen/Dining area and Utility Room (33m²) at ground floor and the construction of a (75m²) two storey extension to the rear. The proposed ground floor accommodation (58m²) will provide a Kitchen/Dining area and Family Room and the proposed first floor accommodation (17m²) will provide two children's bedrooms. Externally, it is proposed to use brickwork at ground floor with render finish at first floor with painted windows and doors, with a pitched and hipped metal standing seam roof and glazed roof lighting above the ground floor accommodation with a pitched and hipped slate roof with glazed roof lights above the first floor accommodation. This application also includes for minor interior alterations, landscaping to the rear garden and introducing a new side door and window replacing the existing window and brick plinth at ground floor to the south side of the front elevation facing into the front garden/ parking area on Frascati Park, Blackrock, County Dublin at no.31, Frascati Park, Blackrock, County Dublin by Tahnee Grant. The planning application may be inspected or purchased, at a fee not exceeding the reasonable cost making a copy at the offices of the Planning Authority, Dun Laoghaire Rathdown County Council, County Hall, during it's public opening hours. A submission / observation may be made on payment of €20 within the period of 5 weeks from the date the application is received by the planning authority.

LEGAL NOTICES

1SPATIAL TECHNOLOGIES LIMITED, having its registered office at C/O Ordnance Survey Office, Phoenix Park, Dublin 8 and having no assets or liabilities, has resolved to notify the Registrar of Companies that the company has ceased trading in business and will not re- commence trading and to request the Registrar on that basis to exercise his powers pursuant to section 311 of the Companies Act 1963 to 2009 to strike the name of the company off the register.
By order of the board,
Peter Bullock,
Director..

BRADY BURNS WORLDWIDE TRAVEL LIMITED, having its registered office at 26 The Village, Newbridge, Co. Kildare and having its principal place of business at 26 The Village, Newbridge, Co. Kildare, having ceased to trade, and having no assets or liabilities, has resolved to notify the Registrar of Companies that the Company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to section 311 of the Companies Act 1963 to strike the name of the Company off the register.
By Order of the Board.
Dolores Kennedy (Director).

FINAL MEETINGS. In the Matters of CONSERVATION CORPORATION EUROPE LIMITED and MAINLIER LIMITED (both, In Voluntary Liquidation) And in the Matter of The Companies Acts 1963 - 2009. NOTICE is hereby given pursuant to Sections 263 and 305 of the Companies Act, 1963 that Meetings of the Members of the above Companies will be held at 29 Earlsfort Terrace, Dublin 2 on 4th August 2010 at 10a.m. and 10.15a.m respectively for the purposes set out in the above mentioned Sections of the said Act.
Dated this the 6th July 2010.
Barry Caldwell.
Liquidator.
Barry Caldwell & Co, 135 Hillside, Greystones, Co. Wicklow.

VOLUNTARY STRIKE OFF PROCESS. Essential Parts (Dublin) Limited trading as Nutgrove Autoparts having its registered office and its principal place of business at Camac Close, Emmet Road, Inchicore, Dublin 8 ceased trading and having no assets or liabilities, has resolved to notify the Registrar of Companies that the Company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to section 311 of the Companies Act 1963 to strike the name of the Company off the register.
By order of the Board,
Louis O'Hanlon,
Company Secretary.
Date: 06/07/10.

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE REVIEW.

Notice is hereby given in accordance with Articles 5 and 6 of the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) that Killarney Waste Disposal Ltd., Aughnacureen, Killarney, Co. Kerry are applying to the Environmental Protection Agency for a Waste Licence Review within two weeks of this date in respect of their Materials Recovery Facility located in the townland of Aughnacureen, Killarney, Co. Kerry - National Grid Reference as follows: 93620E, 93937N.

Killarney Waste Disposal Ltd. propose to increase the annual intake from 40,000 to 59,000 tonnes per annum to include for an increase in the acceptance of dry recyclables, End-Of-Life Vehicles (ELV's) and waste tyres.

The Classes of Waste Disposal and Recovery Activities applied for as per the Third and Fourth Schedules of the Waste Management Acts, 1996 to 2008 are as follows:

Third Schedule

Class 11 - Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 12 - Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 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.

Fourth Schedule

Class 2 - Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).

Class 3 - Recycling or reclamation of metals and metal compounds.

Class 4 - Recycling or reclamation of other inorganic materials.

Class 11 - Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.

Class 12 - Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.

Class 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.

The principle activity at the site will be Class 2 of the Fourth Schedule as detailed above.

The Waste Licence Review Application will be submitted to the Agency within two weeks of the publication of this notice. A copy of the Waste Licence Review Application and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency, be available for inspection or purchase, at the Headquarters of the Environmental Protection Agency, Johnstown Castle Estate, Wexford.

IN THE MATTER OF THE COMPANIES ACTS, 1963 to 2009 and in the matter of MANITOWOC GEC LIMITED.MANITOWOC GEC LIMITED having its Registered Office at 29 Earlsfort Terrace, Dublin 2, having never traded and having no assets nor liabilities has resolved to notify the Registrar of Companies that the Company is not carrying on business and to request the Registrar of Companies on that basis to exercise his powar pursuant to Section 311, Companies Acts, 1963 as amended, to strike the name of the Company off the Register.

MKN COMMERCIAL PROPERTIES LTD. having ceased to trade, having it's registered office and principal place of business at 18/19 The Seapoint Building, 44/45 Clontarf Road, Clontarf, Dublin 3 and having no assets or liabilities, has resolved to notify the Register of Companies that the company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to section 311 of the Companies Act 1963 to strike the name of the Company off the register.
By Order of the Board.
John McKeon,
Company Director.

NORTH DROGHEDA ENVIRONS LIMITED having never traded and having its registered office at and formerly having its registered office at Suite 3, One Earlsfort Centre, Lower Hatch Street Dublin and having no assets or liabilities, has resolved to notify the Registrar of Companies that the company is not carrying on business and to request the Registrar on that basis to exercise his powers pursuant to section 311 of the Companies Act 1963 to strike the name of the company off the register.
By Order of the Board.
Richard Hoare,
Secretary.

ROYAL INTERIOR DESIGN LIMITED having its registered office at Warrenstown, Drumree, Co Meath, having ceased to, trade and having no assets or liabilities, has resolved to notify the registrar of companies that the company is not carrying on business and to request the registrar on that basis to exercise his powers pursuant to section 311 of the companies acts 1963 to 2009 to strike the name of the company off the register.
By order of the board on 5th July 2010.
Neil McCarrick,
Director.

PUBLIC NOTICE

Application to the Environmental Protection Agency for a Waste Licence Review

Notice is hereby given in accordance with Articles 5 and 7 of the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) that **Killarney Waste Disposal Ltd., Aughnacureen, Killarney, Co. Kerry** are applying to the Environmental Protection Agency for a Waste Licence Review within two weeks of this date in respect of their Materials Recovery Facility located in the townland of Aughnacureen, Killarney, Co. Kerry - National Grid Reference as follows: 93620E, 93937N.

Killarney Waste Disposal Ltd. propose to increase the annual intake from 40,000 to 59,000 tonnes per annum to include for an increase in the acceptance of dry recyclables, End-Of-Life Vehicles (ELV's) and waste tyres.

The Classes of Waste Disposal and Recovery Activities applied for as per the Third and Fourth Schedules of the Waste Management Acts, 1996 to 2008 are as follows:

Third Schedule

Class 11 - Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 12 - Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 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.

Fourth Schedule

Class 2 - Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
Class 3 - Recycling or reclamation of metals and metal compounds.
Class 4 - Recycling or reclamation of other inorganic materials.
Class 11 - Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
Class 12 - Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
Class 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.

The principle activity at the site will be Class 2 of the Fourth Schedule as detailed above.

The Waste Licence Review Application will be submitted to the Agency within two weeks of the publication of this notice. A copy of the Waste Licence Review Application and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application will, as soon as is practicable after receipt by the Agency, be available for inspection or purchase, at the Headquarters of the **Environmental Protection Agency, Johnstown Castle Estate, Wexford**.

RPS Consulting Engineers, Lyrr Building, IDA Business & Technology Park, Mervue, Galway, Ireland
T +353 (0)91 534 100 F +353 (0)91 534 199 E ireland@rpsgroup.com W rpsgroup.com/ireland

Planning Department,
Kerry County Council,
County Buildings,
Rathass,
Tralee,
Co. Kerry

7th July 2010

Our Ref: MGE0109LT0027GAL
File Ref: 311

Re: Notice to Planning Authority
Killarney Waste Disposal Ltd - Waste Licence Review Application

Dear Sir/Madam,

In accordance with Article 9 of the Waste Management (Licensing) Regulations 2004, Killarney Waste Disposal Ltd (KWD) wish to notify the Planning Authority, Kerry County Council that a Waste Licence Review Application will be submitted to the Environmental Protection Agency (EPA) within two weeks from the date of advertisement in the Irish Daily Mail dated 6th July 2010.

KWD propose to increase the annual intake from 40,000 tonnes per annum to 59,000 tonnes per annum.

Please find attached the required notice in accordance with Article 9 of the Waste Management (Licensing) Regulations 2004 and a copy of the newspaper advertisement.

Yours sincerely,

Siobhan Glynn

Siobhan Glynn
Associate
For RPS

SG/wm

Attachment B7

Refer to Section H for more details

Third Schedule:

Class 11: This activity provides for the processing and mixing of wastes prior to transfer to other facility for disposal.

Class 12: This activity is required for the processing and bailing of waste on-site prior to disposal.

Class 13: This activity is required for the storage of waste arising at the facility prior to disposal.

Fourth Schedule:

Class 3:
This activity is required for the sorting of metals which will be stored at the facility and then transferred to a metal recycling facility for recovery including WEEE and ELV's.

Class 4:
This activity is required for the sorting, separation and processing of inorganic waste fractions: dry recyclables, C&D waste, and waste tyres.

Class 11: This activity is limited to the packaging of waste by baling, wrapping, placing in containers or trailers prior to submission to a recycling facility.

Class 12: This activity is limited to the exchange of recycling at the facility.

Class 13: This activity is required for the short-term storage of waste at the facility.

The Principal Activity carried out at the site in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003, is as follows:

Class 2: This activity refers to processing of municipal waste. The organic fines are separated out and sent off-site for stabilisation and used as landfill cover/disposal. Residual waste is sent for energy recovery as Refuse Derived Fuel (RDF) or to landfill. Segregated organic waste will also be accepted at the facility to be sent onto a composting facility. This activity also refers to the recycling of organic dry recyclables; paper and cardboard.

TABLE B.7.2 MAXIMUM ANNUAL TONNAGE

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

Maximum Annual Tonnage (tpa)	59,000
Year	2010/2011

B.7.3 FEES

State each class of activity for which a fee is being submitted as per Part I of the Second Schedule of the Waste Management (Licensing) Regulations 2004, S.I. No. 395 of 2004. Note: two fees are required if disposal and recovery are to occur.

Waste Activity	**Fee (in €)**
Disposal of Waste (appropriate disposal activity 1.1 – 3.3)	€10,000
Recovery of Waste (4)	€6,000
Total	€16,000

TABLE B.7.4 (FOR A LANDFILL APPLICATION)

STATE WHICH OF THE FOLLOWING IS RELEVANT TO THE CURRENT APPLICATION.

(a) landfill for hazardous waste	☐
(b) landfill for non-hazardous waste	☐
(c) landfill for inert waste	☐

B.8 SEVESO II DIRECTIVE

State whether the activity is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous substances) Regulations, 2000 (S.I. No. 476 of 2000), apply.

Regulations Apply	Yes ☐	No ☒

If yes, **Attachment B.8** should include the relevant details. Supporting information, as well as copies of any Hazardous Operation Studies (HAZOP) carried out for the site, should also be included in the attachment.

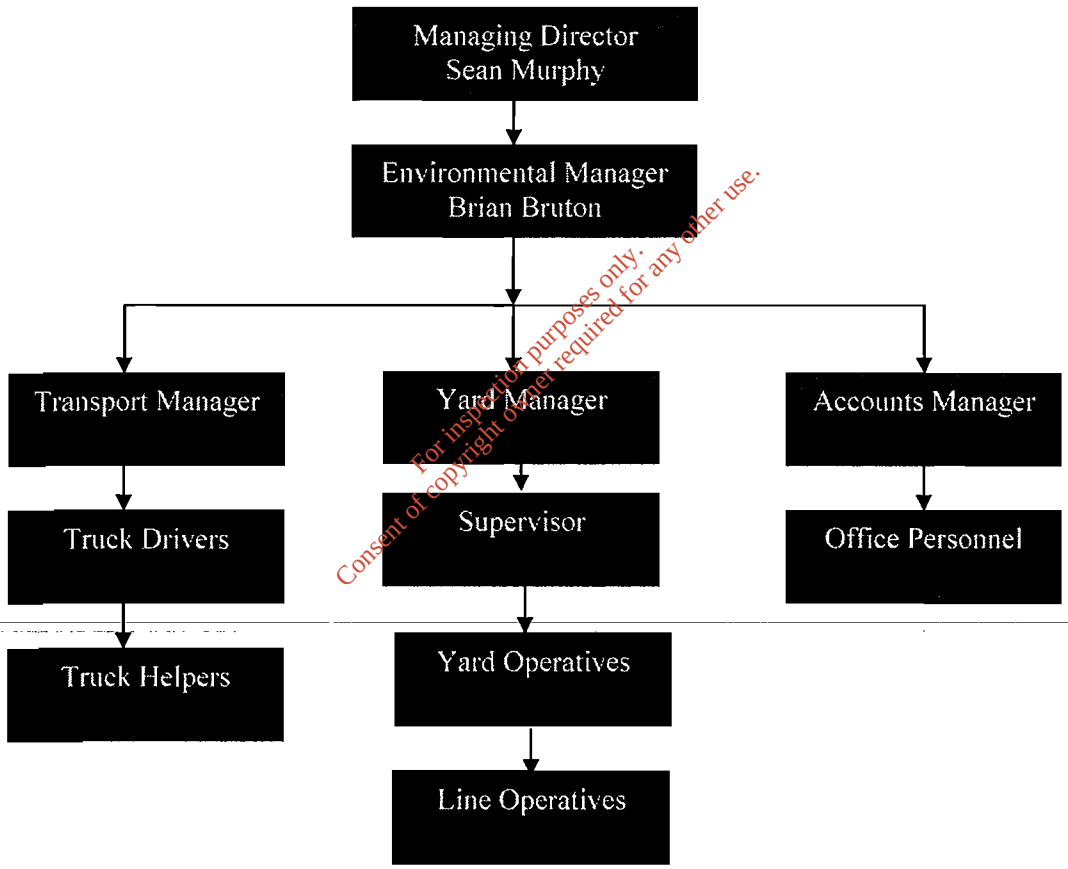
SECTION C MANAGEMENT OF THE FACILITY

Advice on completing this section is provided in the *Guidance Note*.

C.1 Technical Competence and Site Management

This information should form **Attachment C 1**.

Details of the applicant's experience and qualifications, along with that of other relevant employees, should be summarised as shown below. Statements of duties, responsibilities, experience and qualifications should be submitted for each position named below. Additional information, including the management structure and an organisational chart, should be included in **Attachment C 1.**



C.2 Environmental Management System

Attachment C 2 contains the Environmental Management Programme (EMP) and the Environmental Manual.

C.3 Hours of Operation

Attachment C 3 should contain details of hours of operation for the waste facility, civic waste facilities and other facilities.

(a) Proposed hours of operation.

(b) Proposed hours of waste acceptance/handling.
(c) Proposed hours of any construction and development works at the facility and timeframes (required for landfill facilities).
(d) Any other relevant hours of operation expected.

Attachment C3
The proposed hours are outlined as follows:

(a) Material processing within the confines of the MRF Building, 24 hours a day Monday to Saturday inclusive (activities outdoors only between the hours of 07:00 to 20:00),
(b) 07:30 to 19:30 Monday to Saturday inclusive,
(c) Not applicable,
(d) Collection/deliveries may be required outside normal operational hours to facilitate customer requirements. These abnormal operations will be recorded.

C.4 Conditioning Plan

Address as **Attachment C 4,** in the case of a LANDFILL Application, and only for the review of a Landfill Waste Licence.

Attachment C2

Environmental Management Programme (EMP)
Environmental Manual

KWD
EMP 2006-2007

INTRODUCTION

This document comprises the Environmental Management Programme (EMP) for Killarney Waste Disposal (KWD). The EMP includes the company objectives and targets. The means by which, these will be achieved and the associated timescales. The EMP will be reviewed and updated in accordance with **EP001: Setting and Reviewing Objectives and Targets.**

OBJECTIVE

The objective of this document is to set out the environmental objectives and targets specified under KWD's Environmental Management System (EMS) and to address the requirements of Waste Licence Register Number WO217-01.

DEFINITIONS

EMP	- Environmental Management Programme
EMS	- Environmental Management System
Environmental Objective	- Overall environmental goal, arising form the environmental policy.
Environmental Target	- Detailed performance requirement, quantified where practicable.

KWD
Objectives and Targets

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 2 of 7

1.0 Objective	To maintain and improve environmental management at KWD.			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
1.1	To develop an Environmental Management System on site	Compile Environmental Manual	1st Feb 2007	Brian Bruton
		Compile Objectives, target and EMP review	1st Dec 2006	
		Submit EMP to EPA for agreement	1st Feb 2007	
		Document Environmental Procedures including corrective action procedure.	1st Feb 2007	
		Carry out internal environmental audits	Ongoing	
1.2	To ensure that all employees are made aware of requirements of the site environmental system	Identify environmental training needs of all employees	1st Dec 2006	Brian Bruton
		Schedule appropriate training	1st Feb 2007	
		Complete Training	1st Aug 2007	
		Provide environmental awareness training to all employees	1st Feb 2007	
		Operations Manager and designate to successfully complete FAS Waste Management Training programme	1st Aug 2007	
1.3	To develop Public Awareness and Communication Programme	Identify format of Programme.	1st Oct 2006	Marie Murphy
		Identify information to be included.	1st Nov 2006	
		Compile Programme	1st Feb 2007	
1.4	To establish maintenance programme for vehicles and equipment	Identify type of programme to be adopted	1st Nov 2006	Noel O'Reilly
		Identify Vehicles and Equipment to be included in Maintenance Programme	1st Dec 2006	
		Establish maintenance programme	1st Jan 2007	
		Implement maintenance programme	1st Feb 2007	
1.5	To conduct Annual Environmental Review Meetings	Review environmental performance of facility.	1st Mar 2007	Brian Bruton
		Review EMP for 2006 / 2007	1st Mar 2007	

KWD
Objectives and Targets

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 3 of 7

1.0 Objective	To maintain and improve environmental management at KWD.			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
1.6	Submit AER	Prepare and Review AER Submit AER	1st Mar 2007 31st Mar 2007	Marie Murphy,
1.7	Prepare annual statement in accordance with condition 12.2.2 of 1of Waste Licence No WO217-01	Prepare annual statement on Environmental Liabilities Submit as part of AER	1st Mar 2007 31st Mar 2007	Marie Murphy,
1.8	Develop and establish data Management System in accordance with Condition 6.21 of Waste Licence No WO217-01	Identify type of Management system suitable for needs of KWD Implement system	1st Dec2006 1st Mar 2007	Brian Bruton

2.0 Objective	To establish and maintain a suitable site infrastructure at KWD.			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
2.1	To provide and maintain facility notice board in accordance with condition 3.2.1of Waste Licence No WO217-	Identify supplier Install notice board	1st Oct 2006 1st Aug 2007	Brian Bruton
2.2	Install security fencing in accordance with condition 3.3 of Waste Licence No WO217-01	Identify scope of works Seek quotations Select supplier Install fencing	1st Oct 2006 1st Nov 2006 1st Dec 2006 1st Feb 2007	Brian Bruton
2.3	Complete Site Offices	Completion of all building works Transfer of office functions to new offices Removal of Prefab Buildings	1st Feb 2007 1st Mar 2007 1st Apr 2007	Sean Murphy
2.4	Provide waste inspection and quarantine area	Identify location Mark out waste inspection and quarantine area	1st Oct 2006 1st Dec 2006	Brian Bruton
2.5	Install wheel cleaners	Obtain quotations Select supplier Install wheel cleaner	1st Dec 2006 1st Mar 2006 1st Aug 2007	Sean Murphy
2.6	Provide report to EPA as required under Condition 3.8.2 of Waste Licence WO217-01detailing duty	Carry out survey Compile Report	1st Oct 2006 20th Oct 2006	Brian Bruton

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 4 of 7

2.0 Objective	To establish and maintain a suitable site infrastructure at KWD.			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
	and standby capacity of all waste handling and processing equipment at KWD.	Submit to EPA	1st Nov 2006	
2.7	Label and provide safe and permanent access to all onsite sampling and monitoring points and to off site points as required under Condition 3.10 of Waste Licence WO217-01.	Review access Upgrade if necessary Source signs Erect signs	1st Oct 2006 1st Feb 2007 1st Dec 2006 1st Feb 2007	Brian Bruton
2.8	All tank container and drum storage areas shall be rendered impervious in accordance with Condition 3.11.1 of Waste Licence WO217-01	Review storage of tanks, drums and container areas. Demonstrate that all storage areas are impervious to materials stored therein and repair if necessary	1st Nov 2007 1st Feb 2007	Brian Bruton,
2.9	Integrity testing of all bunding structures tanks and containers as required under Condition 3.11.5 of Waste Licence WO217-01 Thereafter to be carried out at three years intervals.	Undertake programme of integrity testing Thereafter to be carried out at three years intervals.	1st Jan 2009	Brian Bruton,
2.10	Install silt trap and oil separator.	Obtain quotations Select supplier Install	Complete	Sean Murphy
2.11	Submit proposals for installation of system to store six week effluent storage capacity or equivalent measures. accordance with condition 3.15.2 of Waste Licence No W0217-01 Installation of system agreed with Agency	Design system. Review system design. Submit to EPA for approval. Install once agreement has been reached with EPA	1st Nov 2006 1st Dec 2006 1st Dec 2006 1st Feb 2007	Sean Murphy
2.12	Install and provide adequate measures for control of odours and dust emissions in accordance with condition 3.20of	Review existing dust and odour measures currently on site. Identify and quantify additional controls are necessary.	1st Sept 2006 1st Oct 2006	Brian Bruton,

KWD
Objectives and Targets

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 5 of 7

2.0 Objective	To establish and maintain a suitable site infrastructure at KWD.			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
	Waste Licence No WO217-01	Carry out works required.	1st Nov 2006	
2.13	Install wind sock in prominent Location on site in accordance with condition 3.20 of Waste Licence No WO217-01	Obtain quotations Select supplier Install windsock.	1st Sept 2006 1st Oct 2006 1st Nov 2006	Brian Bruton,
2.14	Submit proposals to EPA for groundwater Borehole Monitoring points in accordance with condition 3.21 of Waste Licence No WO217-01	Prepare proposal Submit Proposal to EPA	1st Oct 2006 1st Nov 2006	Brian Bruton,

3.0 Objective	Establish and maintain site control at KWD			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
3.1	Prepare programme for identification and reduction of fugitive emissions in accordance with condition 6.8 of Waste Licence No WO217-01	Compile Proposal. Include in EMP Submit to EPA as part of EMP.	1st Nov 2006 1st Jan 2006 1st Feb 2006	Brian Bruton,
3.2	Carry out integrity testing on all underground tanks and pipes. in accordance with condition 6.9 of Waste Licence No WO217-01	Undertake programme of integrity testing. Thereafter to be carried out at three years intervals.	1st February 2007 1st January 2009	Brian Bruton,
3.3	Carry out Biannual Noise Survey in accordance with Condition 6.12.1 of Waste Licence No WO217-01	Carry out first Noise Survey Carry out second Noise Survey Biannually thereafter	To be agreed with the Agency	Brian Bruton,
3.4	Prepare programme for the identification and reduction of noise emissions in accordance with Condition 6.12.1 of Waste Licence No WO217-01	Review Noise survey reports Prepare programme based on findings of Noise surveys. Submit programme to EPA	June 2007 Aug 2007 1st Sept 2007	
3.5	Submit to Agency Drawings as required in Condition 6.14 of Waste Licence No WO217-01	Update drawings Submit to EPA.	1st Oct 2006 1st Nov 2006	Brian Bruton,

KWD
Objectives and Targets

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 6 of 7

3.0 Objective	Establish and maintain site control at KWD			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
3.6	Establish programme for the control and eradication of vermin and fly infestations as required under condition 6.18 of Waste Licence No WO217-01	Compile Programme. Submit to EPA.	1st Oct 2006 1st Nov 2006	Brian Bruton,

4.0 Objective	To improve the efficient use of resources at KWD			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
4.1	To carry out energy efficiency Audit in accordance with Condition 7.1of Waste Licence No WO217-01	Carry out energy efficiency Audit.	1st Aug 2007	Brian Bruton,
4.2	To benchmark all energy and water usage at KWD	Prepare and review on monthly basis energy and water consumption figures in relation to tonnage of waste processed.	Ongoing	Marie Murphy,
4.3	To prepare report examining waste recovery options in accordance with Condition 11.11 of Waste Licence No WO217-01	Prepare Waste recovery report Review Report Submit as part of AER	1st Feb 2007 1st Mar 2007 31st Mar 2007	Brian Bruton,

5.0 Objective	To improve Materials handling at KWD			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
5.1	To establish and maintain written procedures for the acceptance and handling of waste.	Prepare procedures	1st Nov 2006	Brian Bruton,

6.0 Objective	To improve emergency preparedness and response at KWD			
No.	**Target**	**Plan**	**Time Scale**	**Responsibility**
6.1	To establish Accident Prevention Policy	Prepare Accident Prevention Policy Review Annually	1st Feb 2007 Ongoing	Brian Bruton,
6.2	To establish Emergency Response procedure Review Annually	Prepare Emergency Response Procedure. Implement Emergency Response Procedure. Review Annually	1st Jan 2007 1st Feb 2007 Ongoing	Brian Bruton,

Title: ENVIRONMENTAL MANAGEMENT PROGRAMME			
SOP No. EP002	Rev. No.: 0	Issue Date: 01/09/06	Page No.: 7 of 7

OES | consulting

Killarney Waste Disposal Ltd.

Environmental Manual

January 2007

Scotia Technology Ltd.
t/a OES Consulting
4 Day Place, Tralee, Co. Kerry

T: 066 7128321 F: 066 7180061
Email: info@oes.ie

project management ● engineering ● safety ● environment

KILLARNEY WASTE DISPOSAL LTD.

ENVIRONMENTAL MANUAL

Disclaimer

This document has been prepared on behalf of and for the exclusive use of **KILLARNEY WASTE DISPOSAL** by OES Consulting on the basis of an agreed Programme of Work Scope.

Conclusions and recommendations contained in this Document are based on information supplied by the Client and others. Unless expressly stated otherwise, information provided by Third Parties has not been verified by OES Consulting.

OES Consulting accepts no liability or responsibility whatsoever in respect of any use of or reliance upon all or part of this Document by any third party.

Document No. 1059_01_Environmental Manual

Rev	Description	Origin	Review	Changes/Amendments	OES Approval	Date
A	Draft	JS	POL	105901	POL	28/10/06
01	Issue Draft	EM	POL	105901	POL	11/12/06
02	Final Issue	EM	POL	105901	POL	12/01/2007

Scotia Technology Ltd. T/a OES Consulting
Registered Office: 4 Day Place, Tralee, Co. Kerry
Tel: 066 7128321 Fax: 066 7180061 Email: info@oes.ie
Registered Number: 376360

Killarney Waste Disposal Ltd.

Environmental Manual

January 2007

Contents

1. Company Profile

Name and Address:	Killarney Waste Disposal Ltd. Aughacureen, Killarney, Co. Kerry
Year Formed:	1987
Company Profile:	Waste Recovery Facility, Waste Transfer Station.

1.1 Company Background

Killarney Waste Disposal (KWD) was established in 1987 and operates a Materials Recovery Facility at its site in Aughacurreen, Killarney, Co. Kerry. In addition KWD operates a waste collection service for domestic, commercial and industrial customers. Prior to the granting of the Waste Licence Register Number W0217-01 from the Environmental Protection Agency the facility operated under a waste permit from Kerry County Council allowing an annual waste intake of 16,500 tonnes for recovery. The Waste Licence Register Number W0217-01 allows for up to 40,000 tonnes of waste to be processed at the facility per annum.

1.2 Process Description

All incoming waste is weighed on the weighbridge which is located near the site entrance and the following information is recorded for site records:

- Description of waste – waste types, composition form and relevant EWC code
- Origin of waste including customer details
- Weight of the waste load

The waste material is deposited in the Materials Recovery Facility at the Waste Intake Area where it is inspected prior to processing. Any load failing inspection is transferred to the quarantine area where it undergoes further inspection and if found to be non complaint is returned to the customer.

Waste for recovery is segregated into the relevant waste steams and depending on the nature of the material is either bailed for further processing offsite or loaded for off site disposal.

Materials undergoing further processing offsite are transferred to the holding area where they are stored until sufficient quantities are available for shipment by container.

KWD ensures that all information relating to the loading of containers on site is recorded for site records. All containers are sealed prior to shipment off site.

2. Definitions

Continual Improvement

Process of enhancing the Environmental Management System to achieve improvements in overall performance in line with the organisation's environmental policy.

Note: The process need not take place in all areas of the activity simultaneously.

Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interaction.

Note: Surroundings in this context extend from within an organisation to the global system.

Environmental Aspect

Element of an organisation's activities, products or services that can interact with the environment.

Note: A significant environmental aspect is one that has or can have a significant environmental impact.

Environmental Impact

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services.

Environmental Management System

The part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

Environmental Management System Audit

A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organisation's Environmental Management System conforms to the Environmental Management System audit criteria set by the organisation, and for communication of the results of this process to management.

Environmental Objective

Overall environmental goal, arising from the environmental policy, that an organisation sets itself to achieve, and which is quantifiable where practicable.

Environmental Performance

Measurable results of the environmental management system, related to an organisation's control of its environmental aspects, based on its environmental policy, objectives and targets.

Environmental Policy

Statement by the organisation of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets.

Environmental Target

Detailed performance requirement, quantifiable where practicable, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

Interested Party

Individual or group concerned with or affected by the environmental performance of an organisation.

Organisation

Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.

Note: For organisations with more than one operating unit, a single operating unit may be defined as an organisation.

Prevention of Pollution

Use of processes, practices, materials or products that avoid, reduce or control pollution, which may include recycling, treatment, process changes, control mechanisms, efficient use of resources and material substitution.

Note: The potential benefits include the reduction of adverse environmental impacts, improved efficiency and reduced costs.

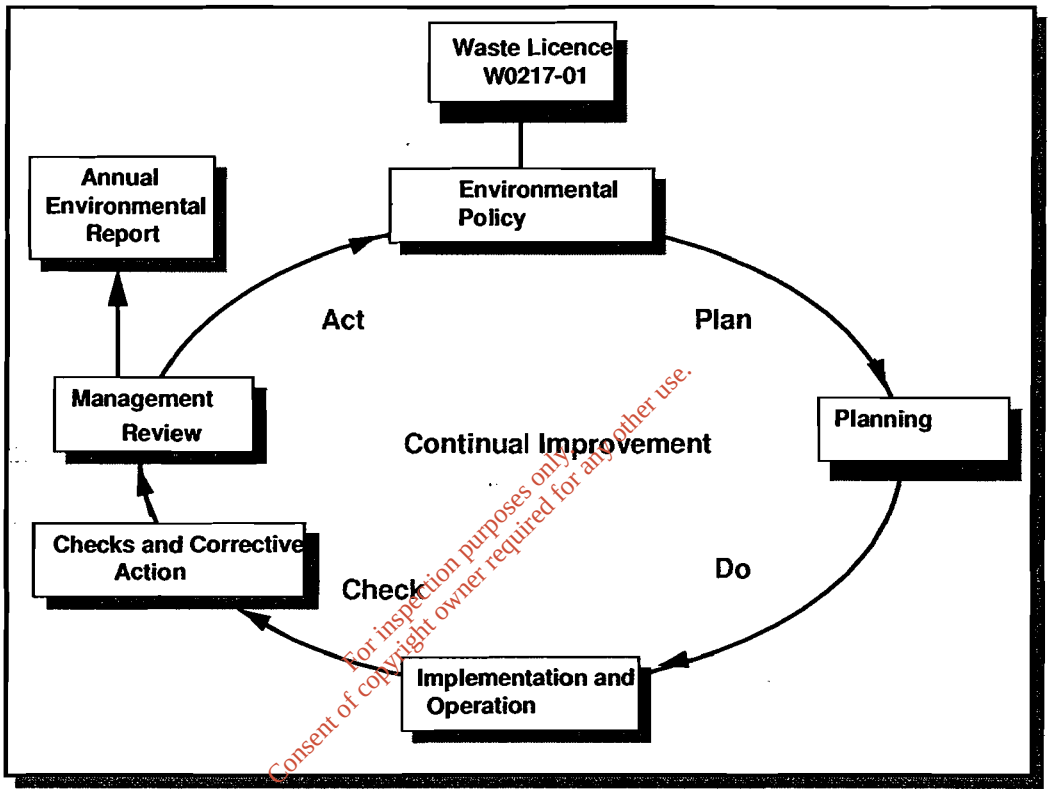
Sustainable Development

"Meeting the needs of the current generation without compromising the ability of future generations to meet their own needs".

3. Environmental Management Systems Requirements

The Environmental Management Programme functions as an action plan dealing with the implementation of measures to achieve the objectives and targets set for the facility. An overview of the system can be seen in Figure 1.

Figure 1 Environmental Management System



3.1 Environmental Management Manual Format

3.2 Purpose

The purpose of this Environmental Management Manual is to describe the environmental management system in operation at KWD Ltd.

This document provides direction to related documentation.

3.3 Scope

The Environmental Management System consists of:

- Environmental Aspects and Impacts
- Environmental Management Programme (Objectives and Targets)
- Environmental Management Manual
- Environmental Procedures
- Waste Licence Register Number 217-1

3.4 Format

The format of this manual is designed to address the main requirements of Waste Licence Register Number W0217-01. Specific procedures and associated reports are referenced in the appropriate sections of the manual.

3.5 Control

The Environmental Manager will maintain a master copy of the Environmental Management Manual.

4. Environmental Policy

Killarney Waste Disposal is a waste management company located in Aughacureen, Killarney, Co. Kerry that provides an efficient and cost effective waste collection and recycling service to customers. The company has an on site facility to treat recyclable material.

KWD Limited is committed to integrating environmental protection into day-to-day business management by:

- Complying with all regulatory and legislative requirements
- Continual improvement by setting and reviewing environmental objectives and targets
- Conserving resources, promoting recycling and reducing waste as far as practical.
- Ensuring efficient use of resources such as energy and water
- Preventing pollution through a combination of controls and monitoring
- Ensuring that all personnel on site are aware of their responsibility regarding environmental procedures and requirements
- Initiating and encouraging communication that will foster responsible environmental management
- Ensuring that KWD's environmental policy is made available to the public

Signed: _____
Sean Murphy
Managing Director

4.1 Posting of the Policy

Hard copies of the Environmental Policy will be signed by the Managing Director and will be posted reception, and company notice board. The Environmental Manager is responsible for posting the Environmental Policy. The Managing Director is responsible for ensuring that the Environmental Policy Statement is reviewed.

4.2 Communication of the Policy

The policy has been communicated to all employees through general awareness training sessions or at induction training.

The Environmental Policy is available in reception for any member of the Public to review. In addition if a member of the public requests a copy of the environmental policy it will be provided to them by the Environmental Manager. Public awareness procedures are undertaken in accordance with KWDEP004.

4.3 Planning

The EMS includes strategic planning activities, the organisational structure and implementation of the environmental policy as an integral part of the manufacturing process.

4.4 Aspects and Impacts

The environmental aspects and impacts associated with the facility have been determined with relevance to operational procedures which may potentially negatively impact with the environment. Where aspects and associated impacts have been identified actions and management plans have been identified to reduce and minimise and mitigate these potential impacts.

Environmental Aspects and Impacts Register

		Action
Water	Mismanagement of liquid effluents may: cause contamination of surface waters or groundwater; affect flora/fauna, food chain, or human health; cause soil contamination; and result fines and violations.	Onsite effluent is treated through an advance waste water treatment unit, and wetland lagoon. Water samples are recorded at surface and treated effluent monitoring locations to ensure there is no contamination. A silt trap and oil separator will be installed as a precautionary measure to reduce potential for water contamination. Bunded structures will be integrity tested to ensure they are intact. Groundwater monitoring boreholes will be installed to monitor groundwater.
	Excessive water consumption may deplete the sole source aquifer; initiate hydraulic pressure on the aquifer, which may cause movement of existing pollutant plumes (offsite).	Water consumption is tracked on a monthly basis, targets and objectives and targets are set for on an annual basis to reduce water consumption. Energy efficiency audit of the facility are undertaken with the aim of reducing consumption.
Waste	Mismanagement of mixed wastes may: cause soil and/or water contamination; affect flora/fauna or human health; affect landscape and natural beauty; result fines and violations.	Reduce onsite waste generation is reduced where possible, A report examining waste recovery options will be completed, establish and maintain written procedures for the acceptance and handling of waste.
Power Consumption	Excessive power consumption may: deplete natural resources; contribute to greenhouse gas emissions; cause environmental impacts at location of power generation.	Power consumption is tracked on a monthly basis, targets and objectives and targets are set for on an annual basis to reduce power consumption. Energy efficiency audit of the facility are undertaken with the aim of reducing consumption.
Atmospheric Emissions	Mismanagement of airborne emissions may: cause exposures to on-site and off-site residents; contribute to global warming; and result fines and violations.	Prepare programme for identification and reduction of fugitive emissions.
Sensitive Species And Sensitive Habitats	May damage or disturb: Protected wetlands, flora; endangered species; water flow.	Planting of trees to screen and reduce noise generation, and buffer the development from the surrounding environs. There is programme for the control and eradication of vermin and fly infestations.
Environmental Noise	May exceed Environmental Protection Agency (EPA) Waste Licence Limits, May cause community concern.	Planting of trees, and embankment to visually screen nearby houses, and buffer noise from the facility. Completion of biannual Noise survey to ensure compliance with the EPA noise limits. Implementation of mitigation measure where non-compliance is detected. Prepare programme for the identification and reduction of noise emissions

Killarney Waste Disposal Ltd. has established actions and environmental management programs for all of the issues associated with the environmental aspects and impacts.

4.5 Objectives and Targets

Key environmental objectives and targets are identified, managed and controlled by means of EP001 **Setting and Reviewing Objectives and Targets**.

KWD maintain a Register of the site's objectives and targets which are contained in the Environmental Management Programme (KWED001). The objectives and targets are consistent with the environmental policy and address continuous improvement in environmental performance

4.6 Environmental Management Programme

KWD has established a programme for achieving the environmental objectives and targets.

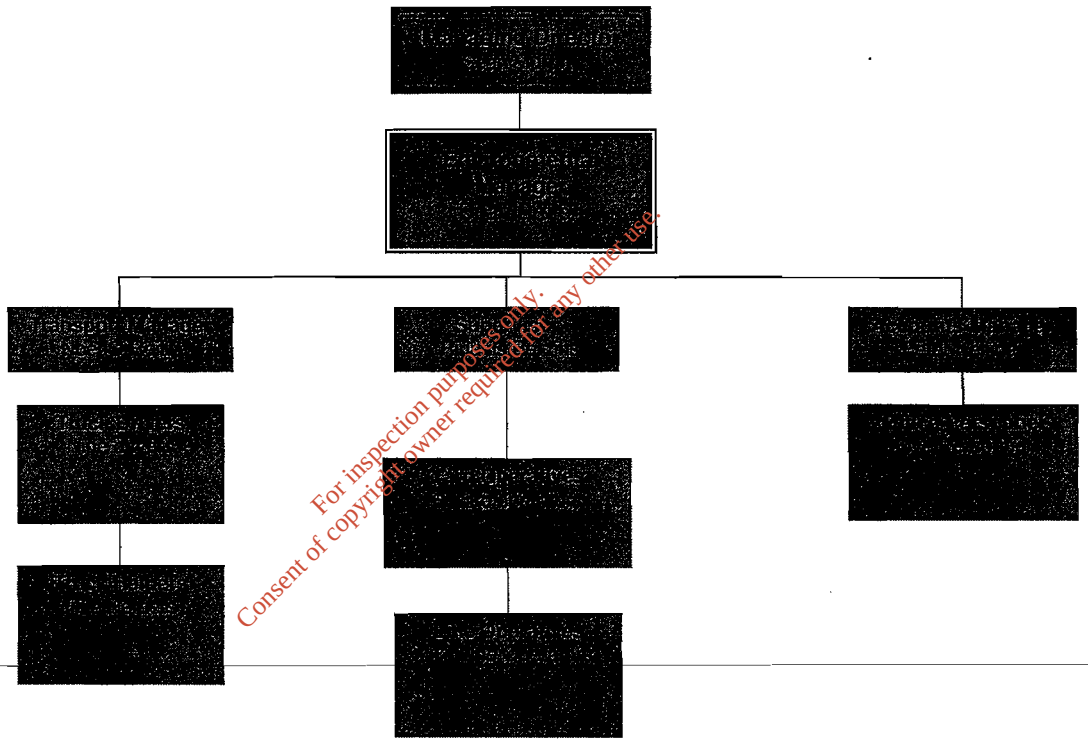
The programme specifies the objectives and targets to be achieved, responsibility, the means and timeframe by which they are to be achieved. The EMP is reviewed in accordance with EP001 **Setting and Reviewing Objectives and Targets.**

Where a review of a new project or change to the site requires a new objective or environmental project this will be included in the next revision of the EMP.

4.7 Structure and Responsibility

In order to organise an effective Environmental Management System, KWD employees have individual roles and responsibilities for applying the Environmental Management System and the Environmental Policy in the performance of their tasks. Management will provide resources essential to the implementation and control of the Environmental Management System. Some specific responsibilities are outlined below.

The Structure of the Environmental Management System at KWD is represented by this organisational chart:



The Environmetnal Manager is also appointed as **the Environmental Management Representative.** In the absence of the Environmental Manager the Managing Director assumes this role.

The **Managing Director** has ultimate responsibility for:

- Effective implementation of the Environmental Management System.
- Ensuring that adequate resources and specialised skills, essential to the implementation and control of the Environmental Management System, are available to maintain the Environmental Management System at its required level
- Delivering a statement to the media on environmental issues if necessary

The **Environmetnal Manager** has responsibility and authority for:

- Ensuring the Environmental Management System requirements are established and maintained in accordance with the Company policy.
- Ensuring that all environmental incidents/releases are investigated, and reported in accordance with the Environmental Management System
- Reporting on the performance of the Environmental Management System to senior management
- Participating in the Environmental evaluation of new processes, new equipment or major projects.
- Reviewing environmental training needs.
- Control of all contractors entering site.
- Ensuring that adequate records are maintained and updated for demonstration of conformance to Environmental Management System requirements
- Implementation of relevant Environmental Management System procedures
- Ensuring that KWD Management are kept up to date with changes to Waste Licence
- Developing and Reviewing Objectives, Targets and Environmental Management Programme.
- Reviewing Environmental non conformances
- Co-ordinating internal audits of the Environmental Management System to ensure continued adherence to documented requirements
- Maintaining and continually improving the Environmental Management System.
- Co-ordinating Environmental Monitoring.
- Identifying Environmental Training Needs
- Ensuring that MSDSs are available for all chemicals used on site
- Reviewing and updating the emergency plan

- Identifying training needs in relation to emergency response and organising external training

All **Departmental Managers/Supervisors** are responsible for:

- Ensuring that all persons whom they lead or engage are fully aware of KWD's environmental policy and that they comply with the policy.
- Ensuring that environmental procedures relating to their areas are fully complied with.
- Identifying and reviewing objectives and targets relating to their area of responsibility.
- Informing the Operations Manager of any changes in their area which may have an environmental significance.

Internal Auditor (s) are responsible for co-ordinating audits organized by the Operations manager.

The Document Controller is responsible for storage, distribution of documents in the environmental system.

The **Employees** have responsibility for:

- Adhering to the environmental procedures relating to their respective tasks.
- Being aware of the environmental policy.
- Adhering to the emergency response procedures.

4.8 Training, and Awareness and Competence

On an annual basis the Operations Manager compiles a company training and development plan. The plan is based on the submission of individual Department plans, which are submitted, by the relevant Department Manager or area representative.

General Environmental Awareness Training is provided as part of induction training in accordance with KWDEP013.

In addition environmental awareness training is provided to all existing employees. The aim of environmental awareness training is to make employees aware of the importance of conformance with the documented policies, procedures and requirements of the Environmental Management System and Waste Licence W0217-01.

- The significant environmental impacts of their work activities and the benefits of improved personal performance.
- Their roles and responsibilities as part of the Environmental Management System, including emergency preparedness and response requirements.
- The potential consequences of departing from documented procedures.

KWD personnel performing tasks which may cause environmental impacts shall be competent on the basis of appropriate education, training and experience.

4.9 Communication

KWDEP003 Environmental Communications and Complaints procedure specifies the method by which external communications and complaints are dealt with in KWD.

Internal communications in relation to environmental issues at KWD are largely in the form of face-to-face meetings or emails. Formal recorded meetings include:

- Environmental Management Review Meeting – at least annually.
- The Managing Director and Operations manager meet daily to discuss operational issues at the facility, when relevant environmental issues are included in these discussions.

4.10 Environmental Management System Documentation

The Environmental Management System is adequately and systematically documented by means of the following core elements:

- Environmental Management Programme (Objectives and Targets)
- Environmental Management Manual
- Environmental Procedures and associated Records
- Waste Licence Register No 217-1.

4.11 Document Control

A comprehensive system is in place to ensure that adequate, accurate, current and valid documentation is maintained and that such documents are available at appropriate locations.

Standard Operating Procedures

All SOPs that form part of the Environmental Manual are controlled by means of KWDEP008.

4.12 Operational Control

KWD has identified operations and activities associated with the identified significant impacts and have established and maintain documented procedures. All significant impacts shall be managed by means of operational control i.e. documented in a procedure or by the setting of an environmental objective.

Procedures are in existence, which cover situations where their absence could lead to deviations from the environmental policy, Corporate Guidelines and objectives and targets. Procedures relevant to the Environmental Management System are detailed below :

EP001	Setting and reviewing Objectives and Targets
EP002	Environmental Records
EP003	Environmental Communication and Complaints
EP004	Public Awareness
EP005	Environmental Non-Conformance and Corrective Action Procedure
EP006	Environmental Auditing Procedure
EP007	Environmental Management Review
EP008	Document Control Procedure
EP009	Emergency Response
EP010	Process Change Approval
EP011	Inspection of Storage Areas
EP012	House Keeping Procedure
EP013	Staff Training Procedure
EP014	Energy Efficiency Auditing
EP015	Inspection of High Level Alarm
EP016	Calibration of Monitoring Equipment
EP017	Environmental Noise Survey
EP018	Monitoring and Measurement
EP019	Spill Clean up Procedure

Maintenance

Killarney Waste Disposal operates a preventative maintenance system for all equipment on site. Maintenance may be undertaken by engineering personnel or by an external contractor.

4.13 Emergency Preparedness and Response

KWD has established procedures to identify potential for and response to accidents and emergency situations. The Emergency Response Plan for the site is included in KWDEP009 and the spill clean up procedure for the site is included is KWDEP009.

KWD will review and revise, where necessary, its emergency preparedness and response procedures, in particular, after the occurrence of accidents or emergency situations. Where necessary non-compliance procedures as per EP005 will be filed and corrective actions implemented to ensure that all emergency procedures are optimised.

KWD will also periodically test such procedures where practicable as part of the audit schedule.

4.14 Checking and Corrective Action

4.15 Monitoring and Measurement

KWDER018 encompass all of KWD's monitoring and measurement activities and processes, which significantly affect or have the potential to significantly affect the environment. In addition a specific procedure is in place for noise surveys as per KWDEP017.

KWDEP001 Setting and Reviewing of Objectives and Target, and Compilation of the Environmental Management Programme specify the method by which the environmental objectives and targets are set by KWD and how their effectiveness is monitored.

4.16 Non Conformance, Corrective and Preventative Action

In the event of an environmental incident, complaint or non conformance arising from a third party audit of the Environmental Management System it is the responsibility of the Environmental Manager to assign a corrective action request to the relevant personnel.

In the case of an internal Environmental Management System audit, it is the responsibility of the Environmental Manager to assign the corrective action request to the relevant personnel.

This will be done in accordance with KWDEP005 Environmental Non Conformance and Corrective and Preventive Action Procedure.

Non conformances and environmental incidents shall be reviewed at the Environmental Management System Review Meeting in accordance with KWDEP007.

KWD will record any changes in the documented procedures as a result of corrective and preventive actions, in line with its commitment to continual environmental improvement.

4.17 Records

It is the responsibility of the Environmental Manager to maintain a list of all relevant environmental records to demonstrate compliance with the requirements of the Environmental Management System. All records are maintained in electronic format, as attachments to the relevant procedures or documents. A controlled Environmental Records List is maintained in accordance with KWDEP002.

4.18 Environmental Management System Audit

KWD conducts periodic audits of the Environmental Management System in accordance with the KWDEP006 Environmental Auditing Procedure. The purpose of auditing the system is to ensure that the system conforms to planned arrangements for environmental management including the objectives and targets, the environmental policy and also to determine if the system is being properly implemented and maintained.

The Environmental Manager is responsible for arranging, scheduling and directing the internal environmental audits. The Audit Schedule is contained in KWEP006. Site inspections of the facility are also undertaken in accordance with KWDEP011, KWDEP012, and KWDEP015 (high level alarm) as part of the audit. In addition an energy efficiency audit is undertaken in accordance with KWDEP014.

The results of all Environmental Management System audits carried out within KWD are reported to management at the Environmental Management System Review Meeting (KWEP007 Management Review).

4.19 Management Review

The Management at KWD shall review the Environmental Management System on at least an annual basis to ensure its continued suitability and effectiveness. This review shall be documented and carried out in accordance with EP007 Environmental Management Review.

The environmental management review shall address the possible need for changes to KWD's Environmental Policy, objectives and other elements of the EMS in light of changing circumstances, environmental audit results and the commitment to continual improvement and the prevention of pollution.

SECTION D INFRASTRUCTURE & OPERATION

D.1 Infrastructure

Complete the following table detailing the site infrastructure. **Attachment D 1** should contain the appropriate documentation. Information provided should follow the sequence, and use the headings, established in Table D.1. Additional advice on completing this section is provided in the application *Guidance Note*.

Table D.1. Infrastructure		y/n	Comments
D.1.a	**Site security arrangements including gates and fencing**	Y	See Attachment D.1.a
D.1.b	**Designs for site roads**	Y	See Attachment D.1.b
D.1.c	**Design of hardstanding areas**	Y	See Attachment D.1.c
D.1.d	**Plant**	Y	See Attachment D.1.d
D.1.e	**Wheel-wash**	Y	See Attachment D.1.e
D.1.f	**Laboratory facilities**	N	
D.1.g	**Design and location of fuel storage areas**	Y	See Attachment D.1.g
D.1.h	**Waste quarantine areas**	Y	See Attachment D.1.h
D.1.i	**Waste inspection areas**	Y	See Attachment D.1.i
D.1.j	**Traffic control**	Y	See Attachment D.1.j
D.1.k	**Sewerage and surface water drainage infrastructure**	Y	See Attachment D.1.k
D.1.l	**All other services**	Y	See Attachment D.1.l
D.1.m	**Plant sheds, garages and equipment compound**	Y	See Attachment D.1.m
D.1.n	**Site accommodation**	Y	See Attachment D.1.n
D.1.o	**A fire control system, including water supply**	Y	See Attachment D.1.o
D.1.p	**Civic amenity facilities**	N	
D.1.q	**Any other waste recovery infrastructure**	N	
D.1.r	**Composting infrastructure**	N	
D.1.s	**Construction and Demolition waste infrastructure**	N	
D.1.t	**Incineration infrastructure (if applicable).** **Provide information to fulfil Article 4 (2) & (3) of the Incineration of Waste Directive**	Not App	
D.1.u	**Any other infrastructure**	Y	See Attachment D.1.u

Attachment D.1

D.1.a Facility security arrangements

Access from the main road is restricted by means of a 2 metre high embankment, mature hedgerow and a security gate. The access control gates and the MRF building, offices, containers and cabins are kept locked when the facility is unsupervised. Any defect in the gates and/or fencing are temporarily repaired by the end of the working day and reinstated fully within 3 working days.

A CCTV system is in operation on site which records all truck movements into and out of the facility. A post and wire fence surrounds the 2 no. ponds and constructed wetland on site.

D.1.b Design for facility roads

The access road to the facility is shown in Drawing No. DG0035-01; Detailed Site Layout Plan.

D.1.c Design of hard-standing areas

Concrete and gravel fill areas are shown in Drawing No. DG0035-01; Detailed Site Layout Plan.

D.1.d Plant

The following plant machinery/equipment is used on site:

- Bag opener & screener,
- 2 no. Trommels,
- Baler,
- Wrapping machine,
- 3 no. Shredders,
- 3 no. Loaders,
- Compressor,
- Wood chipper,
- Mechanical sorting and picking line,
- Optical sorting system,
- Bag opener,
- Cardboard sorter,
- C&D waste pickling line,
- Scrap metal/car baler, and
- Support frame and specialised equipment for dismantling End-Of-Life Vehicles (ELV's).

D.1.e Wheel-wash

A sweeper is used on site as an alternative method to wheel cleaning due to space restrictions at the facility which do not allow for a wheelwash to be installed.

D.1.g Design and location of fuel storage areas

A 5,000 litre diesel tank and a 1,000 litre green diesel tank are stored in a bunded area on site as shown on Drawing No. DG0035-01; Detailed Site Layout Plan.

D.1.h Waste Quarantine Area
A waste quarantine area is shown on Drawing No. DG0034-01; Layout of MRF Building.

D.1.i Waste Inspection Area
The waste inspection area is shown in Drawing No. DG0034-01; Layout of MRF Building.

D.1.j Traffic Control
A two way system operates within the site which allows trucks to deposit their waste without blocking other vehicles. All trucks must pass over the weighbridge when entering and exiting the site.

D.1.k Sewerage and Surface Water Drainage Infrastructure

Sewerage

A septic tank is in use at the facility with a Puraflo unit and associated percolation area. The system has been designed to cater for 12 people at 180L per person per day, which equates to a discharge quantity of 2.16 cubic metres per day to be treated by the system. The design of the domestic effluent system is in line with the requirements of EPA Wastewater Treatment Manuals. The Puraflo unit and associated percolation area has been designed, located, constructed and maintained in accordance with the manufacturer's instructions. An assessment from Bord na Móna on the design of the Puraflo system is included in Attachment D.1.k.

Stormwater/Surface Water Drainage

(i) Roof
Roof water drainage from the MRF building is directed away from the concreted yard and stormwater collection/treatment system. Drawing No. DG0035-01; Detailed Site Layout Plan shows the emission/monitoring point locations R1 and R2 for roof water runoff.

(ii) Concreted Yard Area
Runoff from the yard area drains to 2 no. holding tanks from where it is pumped to the oil/water separator and then on to the aeration pond, settling pond, constructed wetland and percolation ditch. The discharge point (SW1) from the constructed wetland to the percolation ditch is monitored to ensure that the stormwater is uncontaminated. The final disposal route is to surface water. It has been calculated that the total surface water runoff for the site is 12.8m^3/day. Drawing No. DG0035-01; Detailed Site Layout Plan shows the layout of the stormwater collection/treatment system. A Surface Water Collection System Assessment Report was completed by RPS in December 2008 and is included in Attachment D.1.k.

D.1.l All Other Services

Electricity
A generator on site is used to run the machinery. The office buildings are run off the mains electrical supply to the site.

Telecommunications infrastructure
Telecommunications infrastructure exists on site.

Water Supply
The facility is connected to the public water supply network.

D.1.m Plant sheds, garages and equipment compound
Cabins on site are used as changing rooms for the operatives. Containers on site are used for the storage of empty bins and equipment.

It is proposed to store waste tyres in containers as shown in Drawing No. DG0035-01; Detailed Site Layout Plan. Waste tyres will be stored in stable stacks not rising above 3 metres in height and individual stacks will be separated by a distance of 6 metres.

D.1.n Site accommodation
Drawing No. DG0035-01; Detailed Site Layout Plan shows the location of the site offices and reception area with toilet facilities.

D.1.o A fire control system, including water supply
Fire extinguishers are present on site and the settling pond can also be used for fire fighting purposes.

D.1.u Any other infrastructure
A weighbridge is located at the facility and is used by waste vehicles entering and leaving the site.

The MRF building has an effluent holding tank in the centre of the building. This precast concrete holding tank is 6,920 litres (1,500 gallons) in capacity and is lined with a 2.5mm thick HDPE liner. A bunding tank which surrounds the holding tank has a capacity of 13,250 litres (3,500 gallons). Details on the design of the effluent tank are contained in Attachment D.1.k.

A separately bunded area with drain and sump will be provided in the MRF building where it is proposed to store and treat End-Of-Life Vehicles (ELV's) Drawing No. DG0034-01 - Layout of MRF Building.

Attachment D.1.k

Puraflo Wastewater Treatment System Details
Surface Water Collection System Assessment Report
Design Details of Effluent Holding Tank

BORD NA MÓNA

BORD NA MÓNA ENVIRONMENTAL LIMITED

PURAFLO PEAT FILTER SYSTEM QUOTATION

DATE	10/06/05	QUOTE NO.	73978
SITE OWNER SITE ADDRESS PHONE	Sean Murphy, Aughacurreen, Killarney, Co. Kerry.	REFERENCE	Paudie O Mahoney & Associates Consulting Engineers, Grosvenor Court, Upper High Street, Killarney. 064 33412
SCOPE OF SUPPLY EXTRAS (if any)	***Bord na Mona Environmental Ltd will deliver to site, install and commission the Puraflo Peat Filter System consisting of:*** 2 Puraflo Modules, Concrete Pumping Chamber, Electrical Control Panel, 40mm PE Pipe, 110mm uPVC Sewer, Pipe from Septic Tank onwards ***Provision of the following is the responsibility of the customer:*** Septic Tank – SR6 Compliant (with T pieces, down legs and baffle wall), JCB and Driver, Electrical cable from house to control panel at septic tank, Electrician to complete electrical connection, a quantity of 1" – 2" clean broken stone (depending on percolation requirements), All site re-instatements.		
PRICE	€3,947.14 + vat @ 13.5% = €4,480.00 • 30% Order Deposit to be paid when order is placed = €1,344.00 • Balance to be paid on day of installation = €3,136.00 • Additional charges may be incurred by the customer for any delays that result in the Installer having to make subsequent visits to the site to complete the installation. Please see Conditions of Sale for full details. FINAL PRICE OF SYSTEM IS SUBJECT TO SITE VISIT		

When returning your signed quotation to Bord na Mona Environmental Ltd. please ensure the following items are included:

- Copy of your Site Map and Planning Conditions as approved by the County Council
- Soil T / P Value (percolation test results)
- Order Deposit Cheque

Please return the signed quotation along with the items listed above to:
Puraflo Co-ordinator, Bord na Mona Environmental Ltd, Newbridge, Co. Kildare

Tel: 1850 381136 / 045 431201, Fax: 045 432312, E-Mail: ed.info@bnm.ie, Website: www.bnm.ie

TO BE COMPLETED BY INVOICEE (Please use block capitals)	NAME:	ADDRESS: PHONE:	COMPANY: (If applicable) TITLE: (If applicable)
SIGNED (Customer)		DATE	
SIGNED (For Bord na Mona Environmental Ltd)		DATE 10/06/05	

I have read, understand and accept the above quotation & General Conditions of Sale attached. This form when signed by both parties constitutes a binding contract. A copy showing both signatures will be returned to you.

BORD NA MÓNA

BORD NA MÓNA ENVIRONMENTAL LIMITED

Paudie O Mahoney & Associates,
Consulting Engineer,
Grosvenor Court,
Upper High Street,
Killarney,
Co. Kerry.

10 June, 2005

Re: Puraflo wastewater treatment system for a dwelling house at Aughacurreen, Killarney, Co. Kerry for Sean Murphy.
Quotation No: 73978

Dear Sir/Madam,

As the Site Suitability Report indicates a T Value = >80 and a high watertable, you will be required to carry out the following works in association with the installation of the Puraflo system.

The Puraflo modules and percolation area should be installed on an imported mound 65m^2 x 1m deep as per fig 10 Agrement Certificate No. 99/0060. The material to be used in the imported mound should consist of sandy clay loam with a T Value of 15-30 (soil group 2, table 2a Agrement Certificate No. 99/0060.)

The treated effluent from the Puraflo system will be highly polished with significant levels of organic matter content, suspended solids and indicator bacteria in the wastewater removed prior to discharge to the subsurface. The proposed mounding will polish and further purify any residual contaminants present thereby minimising or eliminating the risk of groundwater pollution.

A catchment drain should be installed to the nearest outfall to cater for any seepage that might occur from the raised percolation area

I am satisfied the Puraflo system and percolation area will work to specification on this site.

Yours sincerely

Donal O'Grady
Area Marketing Manager
Wastewater Treatment Technologies

LITTLETON, THURLES, CO. TIPPERARY, IRELAND.
TELEPHONE: 1850 481196 / (0504) 44215. INT: +353-504-44215. FAX: (0504) 44225. INT: +353-504-44225.
REGISTERED OFFICE: MAIN STREET, NEWBRIDGE, CO. KILDARE.
REGISTERED IN IRELAND NUMBER: 303313

Killarney Waste Disposal Limited

Surface Water Collection System Assessment Report

DOCUMENT CONTROL SHEET

Client	Killarney Waste Disposal Limited					
Project Title	Surface Water Collection System					
Document Title	Surface Water Collection System Assessment Report					
Document No.	MGE0109RP0010					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	9	1	1	2

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	B Griffin	S Glynn	W Madden	Galway	23rd December 2008

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1 INTRODUCTION

The Killarney Waste Disposal Limited (KWD) site at Aughacurreen, Killarney is regulated by Waste Licence Register No. W0217-01. The site was subjected to an EPA site inspection on 15th August, 2008. A number of non-compliances were noted in the inspection report including;

1. Emission of environmental significance in non-compliance with Condition 5.1 of the waste licence.

2. Processing and storage of waste outside in non-compliance with Condition 3.17 of the waste licence.

The emission of environmental significance related in particular to the surface water discharge from the site with elevated levels of Ammonia. The Corrective Action Required (CAR) called for the licensee '...to arrange for an independent consultant to carry out an assessment of surface water drainage and the surface water treatment at Killarney Waste Disposal Ltd.'

A subsequent meeting with the EPA took place on 18th September 2008 to discuss these compliance issues. At this meeting the EPA requested that monitoring and assessment of the surface water treatment system needed to be carried out and tankering of surface water should be undertaken until such time that it could be shown that the Ammonia level in the surface water leaving the site is below 1 mg/l.

RPS have undertaken the assessment of the surface water collection system as required on behalf of Killarney Waste Disposal Ltd. and have made a number of recommendations in this regard which are contained in this report.

2 ASSESSMENT

2.1 SITE INSPECTION

The KWD facility was visited on 20th October, 2008 by PJ Griffin, an Associate Director in the Water Services Section of RPS Consulting Engineers. Mr. Griffin undertook an inspection of the surface water collection system and was accompanied by Mr. Brian Bruton, Environmental Manager of KWD. The inspection included the following elements.

2.1.1 Overview of Surface Water Collection and Treatment System

The surface water collection system at the site consists of two collection systems which discharge to separate holding tanks. From the holding tanks the surface water is pumped to a precast concrete oil/water separator from where it flows by gravity to an aerated lagoon. Overflow from the lagoon discharges to ground via a reed bed and a gravel filled percolation trench. The percolation trench extends to a stream which borders the site and it is likely that some or all of the surface water frmm the site ultimately reaches this stream.

2.1.2 General Site

The extents of the site draining to the surface water systems were inspected. The yard appeared to be clean as can be seen by Figures 2.1 and 2.2 below.

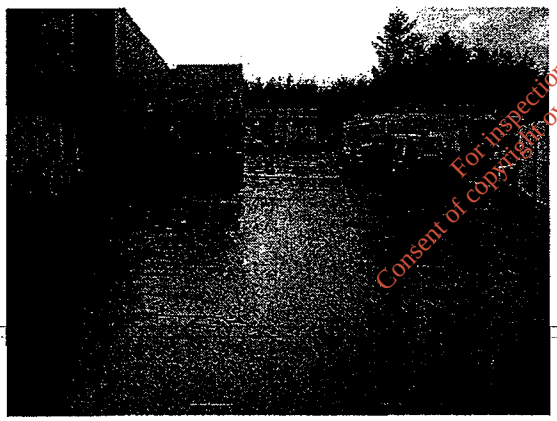


Figure 2.1: Yard Outside MRF Building.

Figure 2.2: Wheelie Bin Storage Area.

A sweeper truck (Scarab Minor) is used on a daily basis to keep the yard area clean.

2.1.3 Holding Tanks and Oil/Water Separator

The two holding tanks were visually examined and no issues were noted. The oil/water separator is of standard construction as manufactured by Carlow Precast and no issues were noted. The oil/water separator is shown in Figure 2.3.

Figure 2.3: Oil/Water Separator.

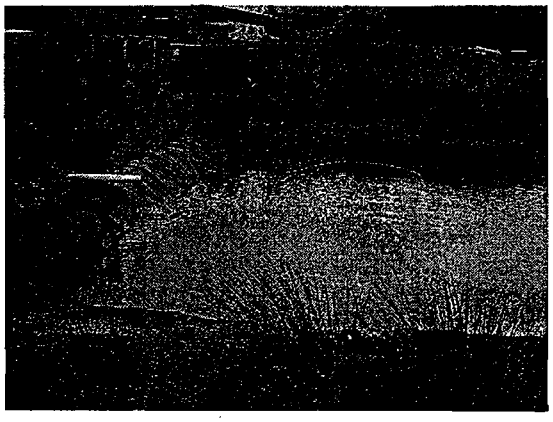


Figure 2.4: Lagoon.

2.1.4 Lagoon

The surface water flows by gravity from the oil/water separator to the lagoon (See Figure 2.4 above).

2.1.5 Constructed Wetlands

The overflow from the lagoon is discharged to a constructed wetlands shown in Figure 2.5. The discharge from the wetlands is to ground via a gravel filled percolation trench. The discharge point is labelled as SW1 and is shown on Figure 2.6. At the time of the inspection the overflow from the lagoon was not in operation as the EPA requested that the surface water be tankered from the lagoon to a wastewater treatment plant in the interim.

Figure 2.5: Constructed Wetlands.

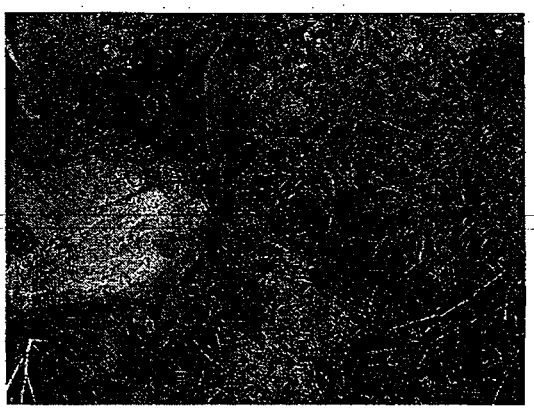


Figure 2.6: Discharge Point SW1.

2.2 SURFACE WATER TREATMENT

2.2.1 Design

The surface water treatment system consists of an oil/water separator, a lagoon and constructed wetlands. The lagoon and wetlands were designed by Tim Clarke to provide surface water balancing only and were not designed to provide treatment of the surface water. Design calculations for sizing the lagoon and the constructed wetlands are provided in **Appendix A**.

2.2.2 Current Operation

The lagoon and wetlands appear to have operated in a satisfactory manner for attenuating of peak flows. There is no evidence that they are contributing to treatment of the surface water run-off from the site.

2.3 REMEDIAL ACTIONS

A number of initiatives have been put in place since the site inspection carried out by the EPA on 15th August 2008.

2.3.1 Processing of C&D Waste

Gates have been installed on the remaining bays of the C&D waste picking station to prevent the migration of waste out onto the yard area. As per the KWD correspondence of 15th September 2008 to the EPA the light fraction recovered from the C&D is now sorted on the dry recyclable line which is housed inside the MRF building. These measures have significantly reduced the potential for contaminated run off entering the surface water system.

2.3.2 Storage of C&D Waste

The practice of storing C&D wastes outside in the yard area has been discontinued. There was no evidence of any such wastes being stored outside during the site visit.

2.3.3 Site Clean Up

An aggressive site cleaning programme has been put in place since the EPA inspection. Measures undertaken include cleaning the holding tanks, oil/water separator and lagoon and the use of a sweeper truck on a daily basis.

2.3.4 Lagoon Aeration

A Hydrovane air compressor has been installed to aerate the lagoon in an attempt to reduce the levels of Ammonia in the surface water. The compressor delivers approximately 0.22 m^3/min of air to the lagoon.

2.4 IMPROVEMENTS

The remedial actions described above have led to a significant improvement in the quality of the surface water leaving the site.

3 WATER QUALITY

3.1 WATER QUALITY RESULTS

Water quality sampling has been undertaken on a frequent basis since 26th September 2008. The results of the sampling are shown in **Table 3.1** below. The oil/water separator is the nearest point at which the surface water leaving the site can be monitored. The results show a significant improvement in the Ammonia levels at the oil/water separator with an average Ammonia reading of 0.68 mg/l between 1st October and 19th December 2008. Ammonia levels in the lagoon have also improved in the same time however they remain somewhat high with an average level of 0.85 mg/l. Sampling of SW1 has been undertaken since 20th October 2008 and shows an average level of Ammonia of 1.22 mg/l between 20th October and 19th December 2008.

Table 3.1: Water Quality Results

Date	Oil/Water Separator	Lagoon	SW1 (Discharge Point from Constructed Wetlands)
01/10/2008	0.21	1.77	
02/10/2008	0.66	1.77	
03/10/2008	0.65	1.27	
06/10/2008	1.65	1.25	
07/10/2008	0.05	0.78	
08/10/2008	0.18	1.1	
13/10/2008	1.33	1.28	
14/10/2008	0.06	0.54	
15/10/2008	1.03	0.45	
16/10/2008	0.75	1.68	
20/10/2008	0.14	2.46	3.38
21/10/2008	0.08	2.1	3.28
22/10/2008	0.06	1.35	2.6
23/10/2008	0.34	1.31	0.8
24/10/2008	0.74	0.83	1.04
28/10/2008	0.06	0.96	0.57
29/10/2008	0.07	0.98	0.81
30/10/2008	0.04	0.97	0.53
31/10/2008	0.04	0.98	0.76
03/11/2008	0.04	1.16	1.31
04/11/2008	0.04	1.32	1.44
05/11/2008			1.36
06/11/2008			1.42
07/11/2008	1.65	1.96	1.35
10/11/2008	0.61	0.86	0.7
11/11/2008	1.19	0.9	0.48
12/11/2008	1.18	0.93	0.58
13/11/2008	1.18	0.9	0.9
14/11/2008	0.83	0.9	1.16
17/11/2008	0.83	0.47	1.54
18/11/2008	0.35	0.35	1.44
19/11/2008	0.6	0.36	1.61
20/11/2008	1.03	0.43	1.6
21/11/2008	1.56	0.47	1.39
24/11/2008	0.46	0.37	1.44
02/12/2008	0.78	0.52	1.85
04/12/2008	0.89	0.39	0.34

05/12/2008	0.52	0.33	0.22
08/12/2008	1.25	0.24	0.38
09/12/2008	0.97	0.31	0.3
10/12/2008	1.16	0.32	0.52
11/12/2008	1	0.11	0.68
12/12/2008	0.77	0.19	0.77
15/12/2008	1	0.22	0.67
16/12/2008	1.02	0.33	0.72
17/12/2008	1.02	0.33	0.43
18/12/2008	0.81	0.34	0.63
19/12/2008	0.43	0.39	0.64

Water quality sampling taken from the stream bordering the site shows levels of Ammonia of less than 0.1 mg/l upstream and downstream of the site (See **Appendix B**). The surface water discharge from the site does not appear to have any negative effect on this stream.

4 FINDINGS

4.1 POTENTIAL SOURCES OF CONTAMINATED RUN OFF

While the site in general appeared to be clean a small number of potential sources of contaminated run-off were noted as follows;

4.1.1 C&D Waste Picking Station

Remedial works at the C&D waste picking station have included the installation of gates on all bays to prevent the migration of wastes onto the yard area. While this has largely been accomplished, the potential remains under heavy rain conditions of surface water run off becoming contaminated with materials stored in the bays underneath the picking station.

4.1.2 Wood Stockpile

The existing wood stockpile was identified as a possible source of contaminated runoff considering the possibility that organic material could be mixed in with the wood. Analysis of the contents of holding tank no. 2, (contained in **Appendix B,** labelled as Power Washer) undertaken on 2nd October 2008 and 7th October 2008 show Ammonia levels of 0.1 mg/l and 0.24 mg/l which did not suggest any evidence of contamination from this source.

4.1.3 Skips and Wheelie Bins

There are a number of skips and wheelie bins stored outside on the yard area. All wheelie bins are cleaned inside the MRF building however the potential exists that leaking bins may be a source of contaminated runoff. Similarly leaking skips may also be a source of contaminated runoff. An ongoing inspection programme should be put in place to identify leaking bins and/or skips followed by their immediate repair and/or replacement.

4.1.4 Build Up of Residual Organic Materials

It is likely that a residual amount of organic/contaminated material exists within the surface water collection and treatment network. A cleaning programme needs to be put in place to ensure that a build up of Ammonia within the system does not occur. This cleaning programme should include the regular cleaning of holding tanks, oil/water separator, lagoon and surface water network. The frequency of the cleaning programme should be determined based on any increases in the Ammonia levels leaving the site.

4.2 SURFACE WATER TREATMENT

4.2.1 Lagoon

As stated earlier the surface water lagoon was not designed to provide treatment to the surface water run-off. Recent attempts have been made to provide some level of treatment in the lagoon by means of aeration. Based on the results to date there is no evidence to suggest that the aeration has had any beneficial effects.

Because the lagoon is currently being used to remove the surface water for transport to a WWTP for treatment, sludges are constantly being agitated and placed back in suspension in the surface water. This may well be contributing to the relatively high levels of Ammonia in the surface water analysis taken in the lagoon and corresponds with anecdotal evidence provided by KWD personnel which indicates high levels of Ammonia in samples taken immediately after tankering has occurred.

4.2.2 Constructed Wetlands

Recent samples taken at SW1 (discharge point) from the constructed wetlands have also indicated relatively high levels of Ammonia (average of 1.22 mg/l). The results have shown that cleaning the tanks, oil/water separator and lagoon on site has improved the results in the oil/water separator and lagoon but the constructed wetlands still remain significantly higher.

5 RECOMMENDATIONS

5.1 YARD IMPROVEMENTS

Recent analysis of Ammonia in the oil/water separator have generally shown levels less that 1 mg/l with some exceptions. By putting in place the following improvements and procedures it is anticipated that the levels can be further reduced and with a greater consistency.

5.1.1 Wood Stockpile

All incoming/separated wood piles should be continuously inspected to ensure that there are no organics in the stockpile.

5.1.2 Skips and Wheelie Bins

An ongoing inspection programme should be put in place to identify leaking bins and/or skips followed by their immediate repair and/or replacement.

5.1.3 Build Up of Residual Organic Materials

A cleaning programme needs to be put in place to ensure that a build up of Ammonia within the system does not occur. This cleaning programme should include the regular cleaning of holding tanks, oil/water separator, lagoon and surface water network. The yard will be cleaned on a daily basis. Cleaning of the holding tanks and oil/water separator will be carried out every 2 months or as required.

5.2 C&D WASTE PICKING STATION

If the recommendations in Section 5.1 do not have the desired effect then it may be necessary to put in place further measures to reduce the potential of the C&D Waste Picking Station as a contaminant source.

In order to completely remove this potential contaminant source the following remedy is recommended;

- Installation of a drainage channel in front of the station that would be connected to the effluent tank located within the building. This channel would collect any contaminated runoff from the C&D waste picking station prior to its entry to the surface water collection system.

5.3 SURFACE WATER TREATMENT

It has been recommended by Tim Clarke that the first section of the constructed wetland be replaced and refilled and a settling pond be installed to eliminate the solids being generated from the aeration process getting into the constructed wetlands. Therefore the surface water collection/treatment system will consist of the oil/water separator, aeration pond, settling pond and constructed wetland. It is proposed to clean out the settling pond every 6 months or as required.

5.4 MONITORING

It is proposed to carry out sampling and analysis on the oil/water separator, lagoon and SW1 for ammonia on a weekly basis until further notice from the Agency.

APPENDIX A

Surface Water Design Calculations

WasteWorks

KWD Recycling. Runoff treatment system.
Notes on design and operation.

1.0 Design.

1.1 Volumes.

Calculated on the area provided to me for total present and future concrete yard area. Note that a lot of the yard area shown on your drawing is proposed to be roofed by new shed – reducing the yard area. (Ref Paudie O'Mahony – architects)

Rainfall	
Average rainfall 180 days (mm)	500
Total surface area (m2)	2652
Total 180d rainwater (m3)	1326
Av rainwater/day (m3/d)	7.4

1.2 Interceptor.

The interceptor is 13.5m3 capacity to provide average 2 days retention time. This is for oil and solids separation.

1.3 Lagoon.

This is intended as a balancing tank and will also provide some treatment. It is intended also to act as an emergency for fire fighting purposes. The lagoon is lined with butyl rubber liner (guaranteed for 30 years exposure to weather/UV).

Retention time (days)	10
Lagoon capacity (m3)	74
Av hydraulic depth (m)	1.00
Freeboard (m)	0.25
Lagoon depth (m)	1.25
Area (m2)	74

1.4 Wetland.

This is a lined soil based wetland. It is lined with plastic sheeting laid on top of clay. Designed along general principles for wetlands for runoff.

Retention time (days)	10
Wetland capacity (m3)	74
Av depth (m)	0.1
Area (m2)	737

1.5 Percolation area.

The volume disposed will be similar to the input. I was not provided with a percolation test. The area of the percolation is considerable (2 lengths of approx 60m 4m apart = 60 x 4 = 280m2). It is intended to plant willows along this percolation area.

Ventry, Tralee, Co Kerry. Ph/fx 066 9159858 email tmclarke@iol.ie VAT: 8798628IW

2.0 Operation.

2.1 Gullies

Gullies (one off at present as mentioned) have grids to prevent ingress of large materials. Most of the water drains to this one point. Another may need to be installed – but I have no information about the layout with regard to levels/direction of flows etc. Water flows by gravity to pump chamber.

All roofwater is routed away from the concrete area. Again I have no information about what happens to this. I have simply stated that no roofwater (clean) should be allowed to be mixed with the yard runoff.

2.2 Pump chamber.

Pump chamber 4m3 with submersible pump. All water pumped automatically to interceptor. Flow rate of pump 15m3/hr at head of approx 3m.

2.3 Interceptor

2-chamber interceptor 6.75m3 per chamber. This was installed at high level to provide gravity flow from this point. (only one pump in process flow). This will be protected by an earth bank in due course.

2.4 Lagoon 70m3.

Water flows by gravity from interceptor to the lagoon.

2.5 Wetland.

Water flows by gravity from lagoon to wetland.

2.6 Percolation area.

Water flows by gravity to percolation area.

3.0 Maintenance.

The system is very low maintenance. Apart from the gullies/grids which will need to have solids removed as often as required, the only item requiring maintenance is the interceptor which will be emptied according to requirements (we do not know how quickly solids will accumulate in this tank). The pump is a sealed-for-life unit.

Ventry, Tralee, Co.Kerry Ph/fx: 066 9150858 email: tmclarke@iol.ie VAT: 8790628W

APPENDIX B

Water Quality Sampling Results

MGEO09 / 310.

southern scientific services ltd.

ANALYSIS REPORT

CUSTOMER:	KILLARNEY WASTE DISPOSAL	SAMPLE TYPE:	STORM WATER
ADDRESS:	Aughacureen, Killarney, County Kerry	CONDITION OF SAMPLE ON RECEIPT :	Satisfactory
		DATE SAMPLED:	WEEK 35
REPORT TO:	BRIAN BRUTON	DATE RECEIVED:	08 September 2008
SAMPLED BY:	BRIAN BRUTON *Killarney Waste Disposal*	DATE ANALYSED:	08 ~ 11 September 2008
SAMPLING PT:	SITE B	DATE REPORTED:	11 September 2008
ORDER NO:	upstream	WORK NO.:	20502 C

TABLE OF RESULTS

METHOD:	PARAMETER:	*Lab Ref:* / *Your Ref:*	C08-Sep 158 / WEEK 35 ~ SITE B
SCP 035	pH		6.9
* 2510 B	Conductivity, µS/cm @ 20°C		234
SCP 010	Suspended Solids, mg/L		176
SCP 027a	Total Ammonia, mg/L as N		0.075
SCP 027d	Sulphate, mg/L		35.8
SCP 027b	Chloride, mg/L		27.5
	Visual Inspection – Colour		Dark brown
	Visual Inspection – Odour		Satisfactory

* *Adapted from 'Standard Method for the Examination of Water & Wastewater'.*

Jennifer Keane
Jennifer Keane
Chemistry Laboratory

- *The results relate only to the items tested.*
- *The analysis report shall not be reproduced except in full without written approval of the laboratory.*

dunrine | killarney | county kerry | ireland | telephone +353 (0)64 33922 | fax +353 (0)64 39022
web site www.southernscientificireland.com | e-mail info@southernscientificireland.com
registered in ireland no 323196 | vat reg no IE 6343196 M

southern scientific services ltd.

ANALYSIS REPORT

CUSTOMER:	KILLARNEY WASTE DISPOSAL	SAMPLE TYPE:	STORM WATER
ADDRESS:	Aughacureen, Killarney, County Kerry	CONDITION OF SAMPLE ON RECEIPT :	Satisfactory
		DATE SAMPLED:	WEEK 35
REPORT TO:	BRIAN BRUTON	DATE RECEIVED:	08 September 2008
SAMPLED BY:	BRIAN BRUTON *Killarney Waste Disposal*	DATE ANALYSED:	08 ~ 11 September 2008
SAMPLING PT:	SITE D	DATE REPORTED:	11 September 2008
ORDER NO:	downstream	WORK NO.:	20502 C

TABLE OF RESULTS

METHOD:	PARAMETER:	*Lab Ref:* / *Your Ref:*	C08-Sep 159 / WEEK 35 ~ SITE D
SCP 035	pH		7.2
* 2510 B	Conductivity, µS/cm @ 20°C		218
SCP 010	Suspended Solids, mg/L		3.0
SCP 027a	Total Ammonia, mg/L as N		0.081
SCP 027d	Sulphate, mg/L		14.2
SCP 027b	Chloride, mg/L		23.0
	Visual Inspection – Colour		Pale straw colour
	Visual Inspection – Odour		Satisfactory

* *Adapted from 'Standard Method for the Examination of Water & Wastewater'.*

Jennifer Keane
Jennifer Keane
Chemistry Laboratory

- *The results relate only to the items tested.*
- *The analysis report shall not be reproduced except in full without written approval of the laboratory.*

dunrine | killarney | county kerry | ireland | telephone +353 (0)64 33922 | fax +353 (0)64 39022
web site www.southernscientificireland.com | e-mail info@southernscientificireland.com
registered in ireland no 323196 | vat reg no IE 6343196 M

southern scientific
services ltd.

ANALYSIS REPORT

CUSTOMER:	KILLARNEY WASTE DISPOSAL	SAMPLE TYPE:	STORM WATER
ADDRESS:	Aughacureen, Killarney, County Kerry	CONDITION OF SAMPLE ON RECEIPT :	Satisfactory
		DATE SAMPLED:	Week 39
REPORT TO:	BRIAN BRUTON	DATE RECEIVED:	01 October 2008
SAMPLED BY:	BRIAN BRUTON *Killarney Waste Disposal*	DATE ANALYSED:	02 October 2008
SAMPLING PT:	As Below	DATE REPORTED:	02 October 2008
ORDER NO:	-	WORK NO.:	20609 C

TABLE OF RESULTS

Method:	LAB REF	YOUR REF:	Total Ammonia *mg/L as N*
SCP 027a	C08-Oct 009	Power Washer – Week 39	0.10
SCP 027a	C08-Oct 010	Office – Week 39	4.81
SCP 027a	C08-Oct 011	Oil Separator – 01.10.08	0.21
SCP 027a	C08-Oct 012	Lagoon – 01.10.08	1.77

* *Adapted from 'Standard Method for the Examination of Water & Wastewater'.*

Jennifer Keane
Jennifer Keane
Chemistry Laboratory

* *The results relate only to the items tested.*
* *The analysis report shall not be reproduced except in full without written approval of the laboratory.*

Brian Bruton

From: "Southern Scientific" <info@southernscientificireland.com>
To: "Info" <info@kwd.ie>
Sent: 07 October 2008 16:15
Subject: Ammonia results for 07-10-08

HI brain,
Think I've good news for you today.

C08-oct-137 :oil separator :0.05mg/l@N
C08-oct-138 : Office :0.02mg/l@N
C08-oct-139 : Power washer: 0.24mg/l@N
C08-oct-140: logoon :0.78.mg/l@N

Regards,
Mary Brosnan

1,500g tank inside a 3,500g tank.

NOTES

Mark Fleury.
Kilarney Waste.
Bunded tank proposal.

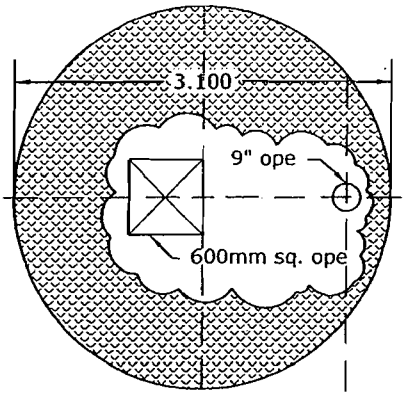
*1 no1,500 gallon tank placed inside a 3,500g tank.

*Concrete base poured in 3,500g tank to support 1,500g tank. 300mm x 300mm x 600mm deep sump left in floor.

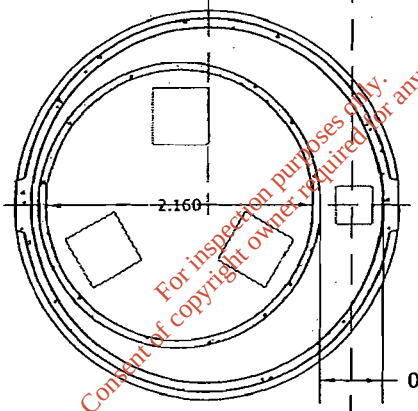
*Precast concrete lid with 600mm x 600mm access ope over 1,500 gallon tank & Ø225mm observation ope over 3,500gallon tank.

*Prime & Tokstrip..

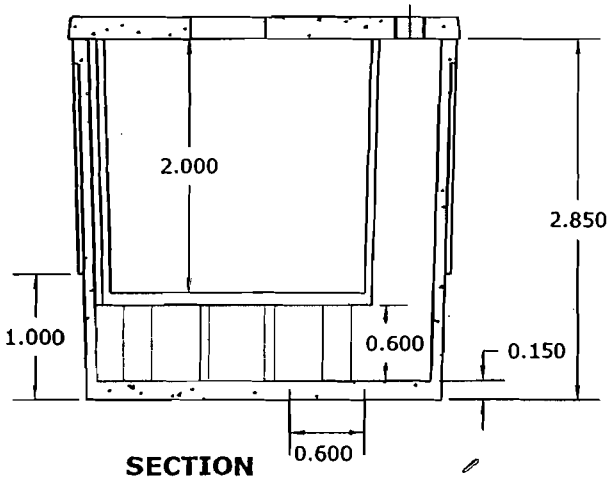
*Suggested base - 100mm cl804 well compacted



ROOF PLAN



FLOOR PLAN



SECTION

P.O. #:	Proposal Dwg.
Sts:	
Drn:	P.Walsh
Ckd:	
Date:	02/06/05

Killarney Waste,
Mark Fleury
1500g & 3500g tanks

Revisions	
1	
2	
3	

[redacted] CARLOW PRECAST TANKS LTD
Manufacturers of Septic & effluent tanks, pump chambers, reservoirs, interceptors and special products
Phone +00 353 (59)91 59322 Fax +00 353 (59)91 59202 e-mail: sales@carlowprecasttanks.com

D.2 Facility Operation

In **Attachment D 2** describe the plant, methods, processes and operations of the waste facility, as required by the *Guidance Note*.

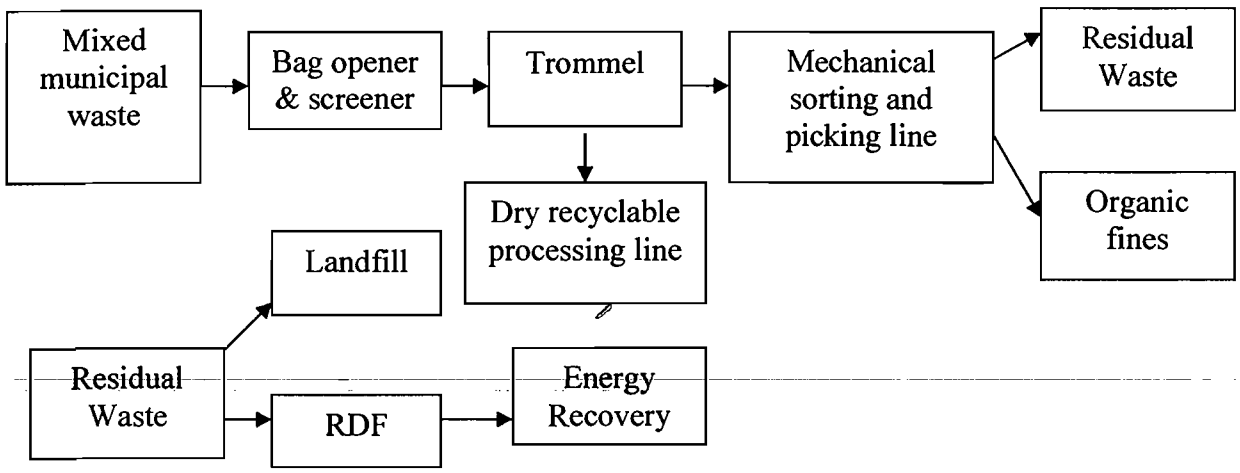
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

Attachment D 2
This Waste Licence Review Application relates to a proposed increase in the annual intake from 40,000 to 59,000 tonnes per annum. It is envisaged that the proposed increase can be accommodated within the existing infrastructure on site; not requiring any infrastructural amendments or an increase in emissions. Drawing No. DG0035-01 shows the Detailed Site Layout Plan and Drawing No. DG0034-01 provides details on the Layout of the MRF building.

Unit Operations
The processing of each waste stream to be accepted is described as follows:

(i) Mixed municipal waste,
(ii) Source segregated waste, which includes organic waste and dry recyclables (plastic (bottles and film), paper, cardboard and packaging waste),
(iii) Construction & Demolition (C&D) waste,
(iv) Glass,
(v) WEEE, and
(vi) End-Of-Life Vehicles (ELV's) and waste tyres.

(i) Mixed Municipal Waste
The mixed municipal waste is tipped on the floor of the MRF building where it is inspected. The remainder of the material is then transferred to a bag opener and screener (trommel) where it is mechanically and manually sorted. The three waste outputs are organic fines, dry recyclables and residual waste. The organic fines are sent to a licensed facility for stabilisation and used for landfill cover/disposal. The dry recyclables are sent for further processing within the MRF building (refer to item (ii)). The residual waste is sent for energy recovery as Refuse Derived Fuel (RDF) or to landfill. The mixed municipal waste stream treatment process is described in **Image 1.1**.



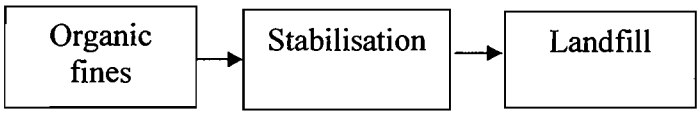


Image 1.1: Mixed Municipal Waste Stream Processes

(ii) Source Segregated Waste

(a) Mixed dry recyclables are tipped onto the floor of the MRF building for inspection. The dry recyclables are sorted both mechanically and manually and the different fractions of dry recyclables are baled. The bales are then transported off-site to authorised recovery facilities. The processing of dry recyclables is described in **Image 1.2**.

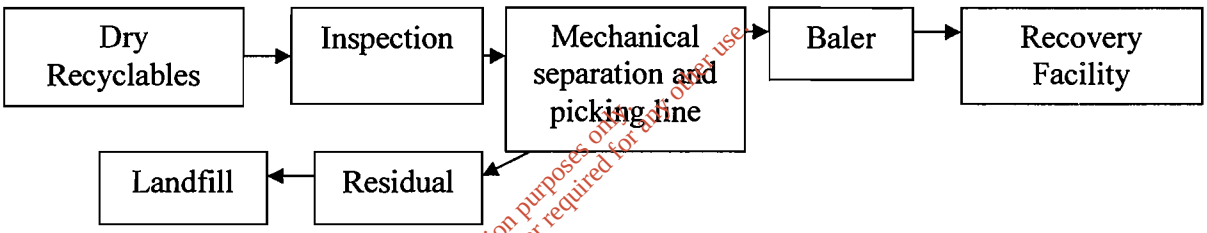


Image 1.2: Dry Recyclables Stream Process

(b) Source segregated organic waste (food and garden waste) that is collected is inspected and stored at the facility until a sufficient quantity is available for shipment to a composting facility for recovery. The process for the treatment of organic waste is described in **Image 1.3**.

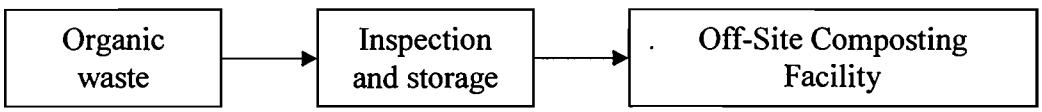


Image 1.3: Organic Waste Stream Process

(iii) Construction & Demolition (C&D) Waste

C&D waste is tipped on the floor of the MRF building where it is inspected and manually sorted to remove large items. The material is then pass through a trommel where fines and oversize is extracted. The fines are sent to a licensed landfill facility for landfill cover/disposal. A wind shifter then removes the light oversize from the heavier oversize. The oversize heavies are transferred to the municipal processing line and the oversize lights are transferred to the dry recyclable processing line. The wood fraction and the plaster board are removed on the picking line and are sent to the shredder at the facility before being sent to an authorised recovery facility. The magnet removes the metal fraction and this is sent

onto an authorised recovery facility. Clean rubble remains at the end of the process and this is sold for reuse. The process for treating C&D and wood wastes are described in **Images 1.4 and 1.5.**

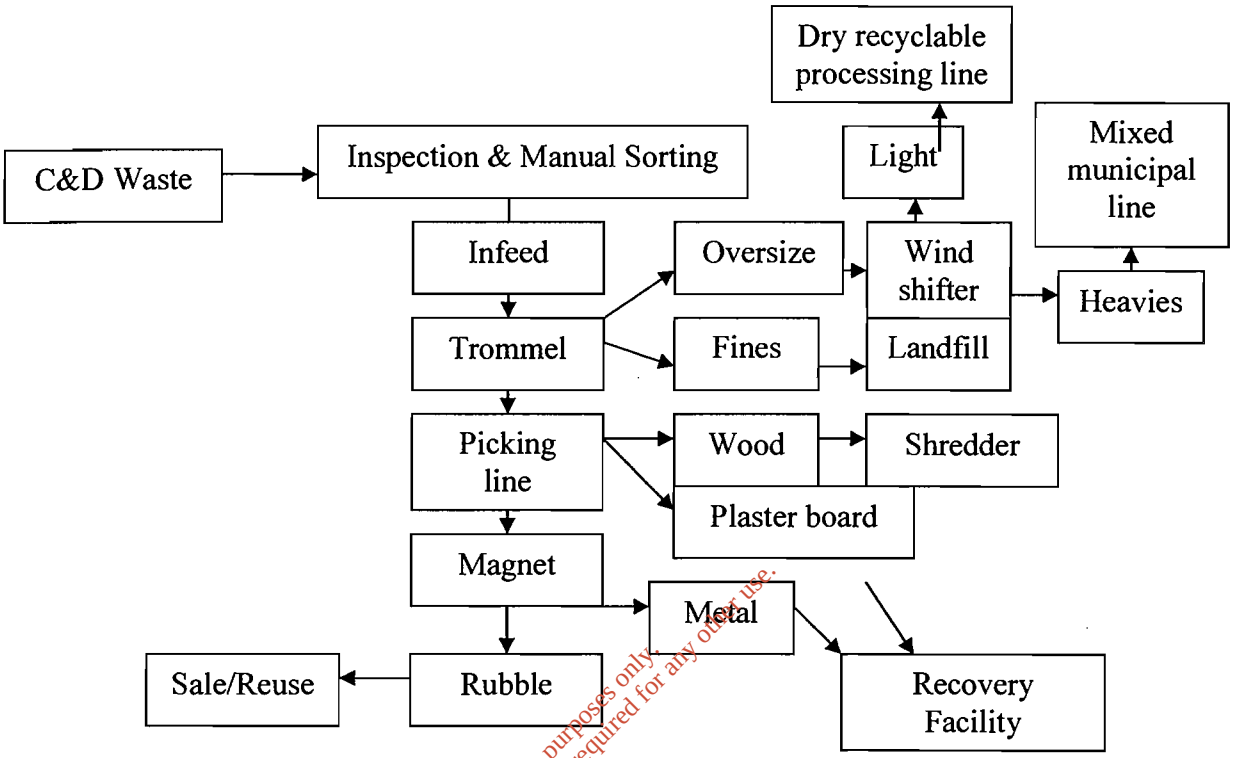


Image 1.4: Construction & Demolition (C&D) Waste Stream Process

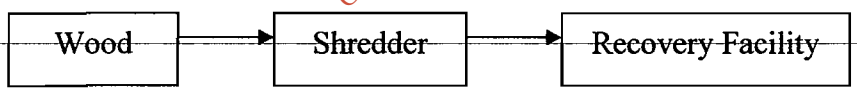


Image 1.5: Wood Waste Stream Process

(iv) Glass

Glass will be collected and stored at the facility until a sufficient quantity is available for transport to a processing facility.

(v) Waste Electrical and Electronic Equipment (WEEE)

WEEE will be accepted for transfer to a recovery facility.

(vi) End-Of-Life Vehicles (ELV's)

The ELV's will be brought to the area allocated in the MRF building for storage and appropriate treatment. Depollution of the ELV's will then take place as outlined in **Images 1.6 and 1.7**. Depollution removes all negative elements that are potentially

harmful to the environment and removes all positive components for recycling and reuse. All fluids and components will be stored in separate containers and sent to a licensed facility for recovery/disposal. Following depollution the remaining bodywork will be sent to a licensed facility for shredding and recovery.

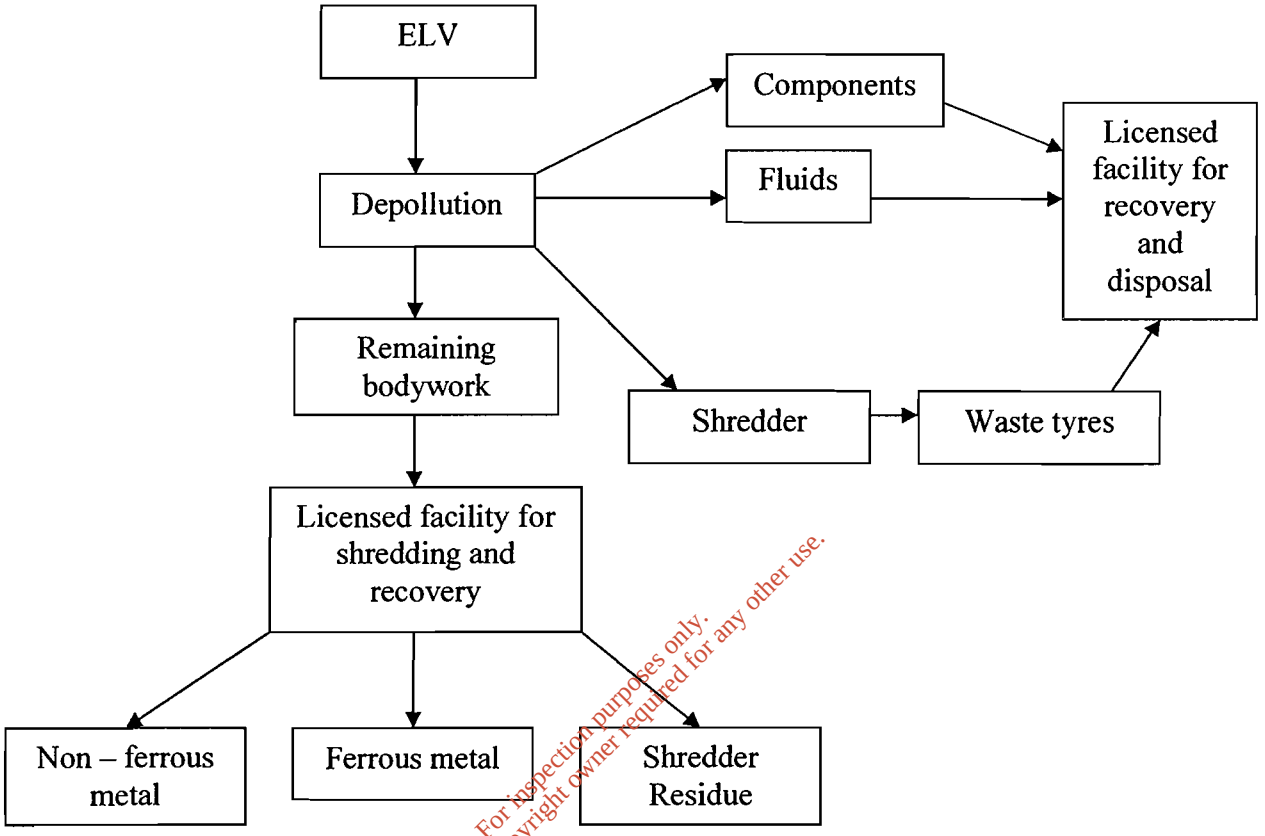


Image 1.6: ELV Waste Stream Process

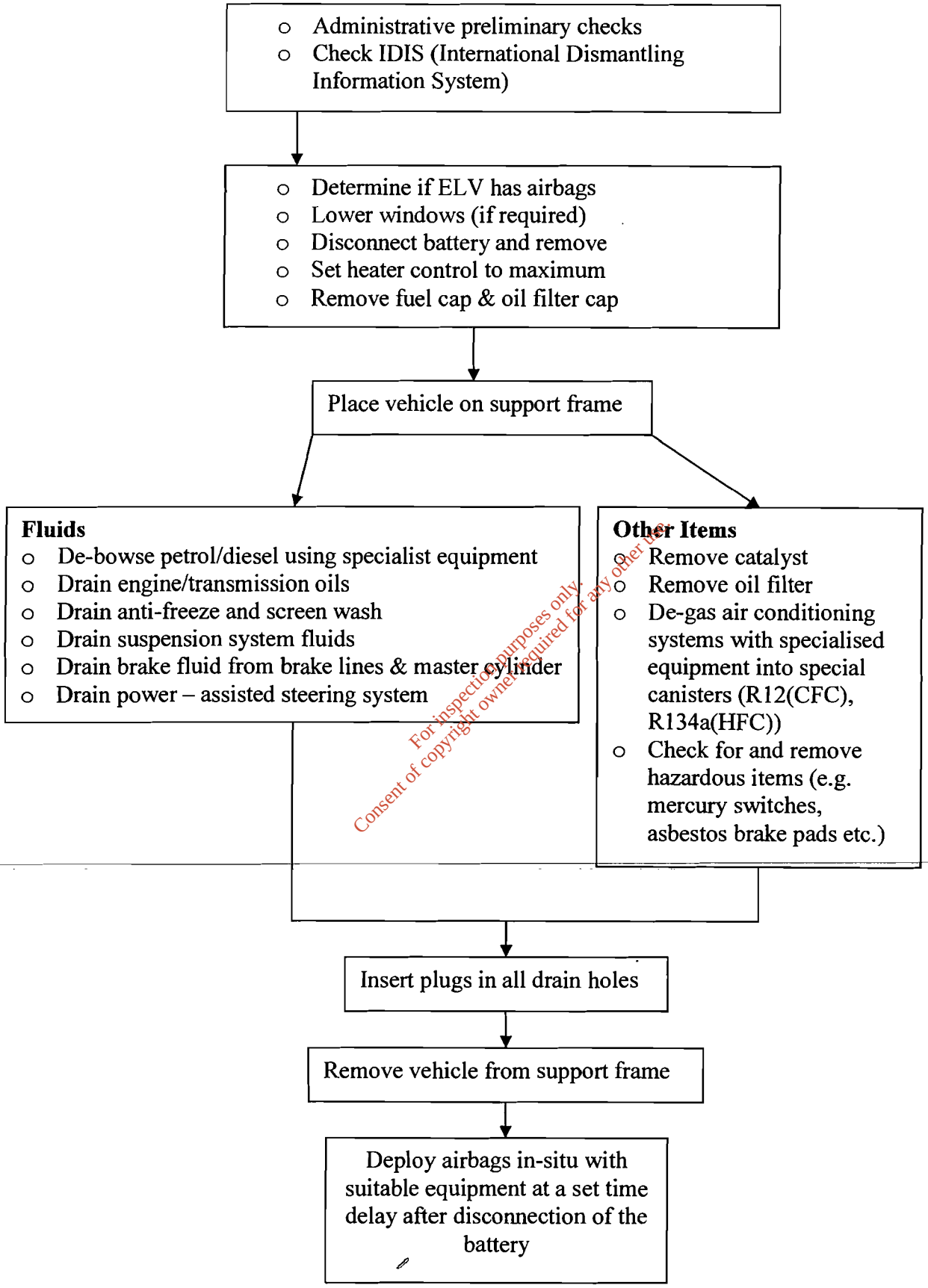


Image 1.7: Depollution Sequence for an ELV

LANDFILLS

The following Sections D3 to D7 should only be completed for Landfill Applications. Reference should be made to the Agency landfill manual 'Landfill Site Design (2000)' when completing this section.

D.3 Liner System

Complete the following table regarding the liner system to be used for the landfill/landfill extension and detail the information requested as **Attachment D.3**. ***Items D3c to D3g should only be completed for immediate projects only (ie Years 1 & 2).*** A schedule of Liner construction activities for the medium to long term need only be listed in item D3a below, since Condition 3 of any licences granted will provide reporting requirements for any future projects.

TABLE D.3 LINER SYSTEM

		y/n	Comments
D.3.a	Provide information to fulfil Annex 1 of the Landfill Directive		
D.3.b	What type of liner system is specified?		
D.3.c	Has a Quality Control Plan been specified?		
D.3.d	Has a Quality Assurance Plan been specified?		
D.3.e	Have independent, third-party supervision, testing and controls been specified?		
D.3.f	Have basal gradients for all cells and access ramps to the cells been designed?		
D.3.g	Has a leak detection survey been specified?		

D.4 Leachate Management

Complete the following table detailing leachate management arrangements. Further information should be included in **Attachment D.4.**

TABLE D.4.1 LEACHATE MANAGEMENT ARRANGEMENTS

		y/n	Comments
D.4.a	Is there a Leachate Management Plan?		
D.4.b	Have annual quantities of leachate been calculated?		
D.4.c	Has the total quantity of leachate been calculated?		
D.4.d	Have the size of the cells been specified taking account of the water balance calculations?		
D.4.e	Has a leachate collection system been specified?		
D.4.f	Has a leachate storage system been specified?		
D.4.g	Has a system for monitoring the level of leachate in the waste been designed?		
D.4.h	Is leachate recirculation proposed/practised?		
D.4.i	Has leachate treatment on-site been specified?		
D.4.j	Has leachate removal been specified?		

D 5 Landfill Gas Management

All landfill sites should have suitable arrangements for the management of landfill gas. **Attachment D.5** should contain the appropriate documentation. Information provided should follow the sequence, and use the headings, established in Table D.5. ***Items D5g to D5m should only be completed for immediate or current gas collection projects only (ie Years 1 & 2).*** A schedule of gas management aspects for the medium to long term need only be listed in item D5f below, since Condition 3 of any proposed decision/licence will provide reporting requirements for any future projects.

Table D.5. Landfill Gas Management

		y/n	Comments
D.5a	Is there a Landfill Gas Management Plan? Provide estimates of the volumes of landfill gas which will be produced by the waste disposed of in the site for the next 20 years, and compare to the EPER list for methane:		
D.5b	Is there a passive venting system?		
D.5c	Does the passive system cover all of the filled area?		
D.5d	Have gas alarm systems been installed in the site buildings?		
D.5e	Have measures been installed to prevent landfill gas migration (e.g. barriers)?		
D.5f	Has a time-scale been proposed for the installation of landfill gas infrastructure?		
D.5g	Is gas flaring undertaken at the site?		
D.5h	Is there an active (i.e., pumped) landfill gas extraction system?		
D.5i	Does the active system cover all of the filled area?		
D.5j	Is landfill gas used to generate energy at the site?		
D.5k	Have emissions from the flarestack and utilisation plant been assessed for source, composition, quantity and level and rate?		
D.5l	Has a maintenance programme for the control system been specified?		
D.5m	Has a condensate removal system been designed?		

D.6 Capping System

Complete the following table detailing the design of the capping system. **Attachment D.6** should contain the appropriate documentation. ***Items D6e to D6k should be completed for immediate projects only (ie Years 1 & 2).*** Condition 10 of any proposed decision/licence will provide reporting requirements for capping requirements beyond this timeframe.

Table D.6 Capping System

		y/n	Comments
D.6a	**Has the daily cover been specified?**		
D.6b	**Has the intermediate cover been specified?**		
D.6c	**Has the temporary capping been specified?**		
D.6d	**Has the Capping System been designed and does it meet the requirements of the Landfill Directive Annex 1 (3.3)?**		
D.6e	**Does the Capping System include a flexible membrane liner?**		
D.6f	**Have all capping materials been specified?**		
D.6g	**Has a Method Statement for construction been produced?**		
D.6h	**Has a Quality Control Plan been produced?**		
D.6i	**Has a Quality Assurance Plan been produced?**		
D.6j	**Has a programme for monitoring landfill stability been developed?**		
D.6k	**Has a programme for monitoring landfill settlement been developed?**		

SECTION E EMISSIONS

Give particulars of the source, location, nature, composition, quantity, level and rate of emissions arising from the activity and, where relevant, the period or periods during which such emissions are made or are to be made.

The applicant should address in particular any emission point where the substances listed in the Schedule of S.I. 394 of 2004 are emitted.

E.1 Emissions to Atmosphere

Details of all point emissions to atmosphere should be supplied. Table E.1.(i) (for Landfill Gas Flare emissions) must be completed for all landfills with a flare. Complete Table E.1(ii) and E.1(iii) for all other main emission points, including stack sources (incinerator stacks, landfill gas utilisation plants, air handling unit emissions etc.). Complete Table E.1(iv) for minor/fugitive/ground emission points.

E.1 Emissions to Atmosphere

No point sources of air emissions exist at the facility. The vortex dryer proposed in the original waste licence application was not installed at the facility.

Dust Emissions

From the facility emissions of dust will be generated from the processing and storage of C&D waste and timber. Dust will also be generated from traffic travelling to and from the facility. Dust emissions associated with timber shredding is minimised as the timber shredder is housed on three sides. It is unlikely that the emission limit of 350 mg/m^2/day for total dust deposition will be exceeded and the annual monitoring required under the waste licence will confirm this. Drawing No. DG0035-01 Detailed Site Layout Plan shows the location of dust monitoring points (D1-D3).

Odour Emissions

The processing of mixed municipal waste and the acceptance of segregated organic waste has the potential to emit odour. The potential for odour emissions is minimised by a series of work practices and mitigation measures at the facility which are outlined in Section I.

E.2 Emissions to Surface Waters

Attachment E.2 Tables E.2(i) and E.2(ii) should be completed where relevant.

E.2 Emissions to Surface Waters

Roof

Roof water drainage from the MRF building is directed away from the concreted yard and stormwater collection/treatment system. Drawing No. DG0035-01 Detailed Site Layout Plan shows R1 and R2 the emission monitoring point locations for roof water runoff. Table E.2 (i) Emissions to Surface Waters has been completed for R1 and R2 which are included in Attachment E.2.

Concreted Yard Area

Runoff from the yard area drains to 2 no. holding tanks from where it is pumped to the oil/water separator and then on to the aeration pond, settling pond, constructed wetland and percolation ditch. The discharge point (SW1) from the constructed wetland to the percolation ditch is monitored to ensure that the stormwater is uncontaminated. The final discharge is to surface water. It has been calculated that the total surface water runoff for the site is 12.8m^3/day. Table E.2 (i) Emissions to Surface Waters has been completed for SW1 which are included in Attachment E.2. Drawing No. DG0035-01 Detailed Site Layout Plan shows the location of SW1.

E.3 Emissions to Sewer

Attachment E.3 Tables E.3(i) and E.3(ii) should be completed, where relevant.

E.3 Emissions to Sewer

Process Effluent

The processing of mixed municipal waste produces a liquid effluent. The MRF building has an effluent holding tank in the centre of the building. This precast concrete holding tank is 6,920 litres (1,500 gallons) in capacity and is lined with a 2.5mm thick HDPE liner. A bunding tank which surrounds the holding tank has a capacity of 13,250 litres (3,500 gallons). Approximately 34,600 litres (7,500 gallons) of effluent is transported by tanker to Tralee WWTP (5 no. loads of 6,920 litres) for treatment per annum. Drawing No. DG0035-01 Detailed Site Layout Plan shows the location of the effluent holding tank inside the MRF Building which is analysed on an annual basis (SE1).Table E.3 is included in Attachment E.3 with the analysis of the effluent included for 2008 and 2010.

Sewage Treatment

A septic tank is in use at the facility with a puraflo unit and associated percolation area. The system has been designed to cater for 12 people at 180L per person per day, which equates to a discharge quantity of 2.16 cubic metres per day to be treated by the system. The design of the domestic effluent system is in line with the requirements of EPA Wastewater Treatment Manuals. The puraflo unit and associated percolation area has been designed, located, constructed and maintained in accordance with the manufacturer's instructions. An assessment from Bord na Móna on the design of the Puraflo system is shown in Attachment D.1.k. Drawing No. DG0035-01 Detailed Site Layout Plan shows the layout of the sewage treatment system.

E.4 Emissions to Groundwater

Describe the existing or proposed arrangements necessary to give effect to Articles 3,4,5,6, and 7 of Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution by certain dangerous substances.

Table E.4(i) should be completed, as relevant, for each source.

Supporting information should form **Attachment E.4**

E.5 Noise Emissions

Give particulars of the source, location, nature, level, and the period or periods during which the noise emissions are made or are to be made.

Table E.5(i) should be completed, as relevant, for each source.
Supporting information should form **Attachment E.5**

E.5 Noise Emissions

Noise emissions are generated from traffic using the adjacent road network, traffic movements on site and noise from operations on site. However the impacts of these emissions are reduced significantly as most operations take place indoors in the MRF building. Processing of timber waste occurs outdoors. This operation takes place on an intermittent basis and the timber shredder is housed on three sides to reduce noise emissions. The monitoring programme for noise will ensure that standard emissions limits are not exceeded. Drawing No. DG0035-01 Detailed Site Layout Plan shows the location of noise monitoring points (NSL1-NSL4).

E.6 Environmental Nuisances

Attachment E.6 should contain the appropriate documentation. Information provided should follow the sequence, and use the headings as relevant established in Table D.6. Additional advice on completing this section is provided in the *Guidance Note*.

E.6 Environmental Nuisances

Litter & Dust Control
Litter and dust control measures are outlined in the House Keeping Procedure in Attachment E.6.

Fire Control
Refer to Section J for the Emergency Response Procedure.

Traffic Control
Refer to Section D.1.j. for traffic control at the facility.

Vermin Control
Killarney Waste Disposal Ltd use vermin control agents within its facility. Such requirements are met with a programme which emphasises the prevention of vermin entry rather than their destruction once they have entered the facility.

Road Cleansing
Regular sweeping of the facility with the automatic sweeper controls the amount of dust generated. A mobile water sprayer is also employed during dry weather conditions to reduce dust emissions.

Attachment E.2

Emissions to Surface Waters

TABLE E.2(i): EMISSIONS TO SURFACE WATERS
(One page for each emission)

Emission Point:

Emission Point Ref. Nº:	R1
Source of Emission:	Roof water run-off
Location :	Roof water runoff to rear of materials recovery building
Grid Ref. (10 digit, 5E,5N):	
Name of receiving waters:	Roadside drain
Flow rate in receiving waters:	_____ $m^3.sec^{-1}$ Dry Weather Flow _____ $m^3.sec^{-1}$ 95%ile flow
Available waste assimilative capacity:	kg/day

Emission Details:

(i) Volume to be emitted: surface area of roof 999m^2 x 1430mm (Avg rainfall per annum) = 1,429m^3 Avg rainfall per day = 3.915m^3			
Normal/day	3.915 m^3	Maximum/day	4.698 m^3
Maximum rate/hour	0.195 m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included).*:

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.2(i): EMISSIONS TO SURFACE WATERS
(One page for each emission)

Emission Point:

Emission Point Ref. Nº:	R2
Source of Emission:	Roof water run-off
Location :	Roof water runoff to front of materials recovery building
Grid Ref. (10 digit, 5E,5N):	
Name of receiving waters:	Aughnacureen land drain
Flow rate in receiving waters:	_____ $m^3.sec^{-1}$ Dry Weather Flow _____ $m^3.sec^{-1}$ 95%ile flow
Available waste assimilative capacity:	kg/day

Emission Details:

(i) Volume to be emitted: surface area of roof = 2,040m^3 x 1,430mm (Avg rainfall per annum) = 2,917m^3 Avg rainfall per day = 7.99m^3			
Normal/day	7.99 m^3	Maximum/day	9.588 m^3
Maximum rate/hour	0.400 m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.2(i): EMISSIONS TO SURFACE WATERS
(One page for each emission)

Emission Point:

Emission Point Ref. Nº:	SW1
Source of Emission:	Treated discharge from constructed wetland
Location :	Discharge outlet from constructed wetland
Grid Ref. (10 digit, 5E,5N):	
Name of receiving waters:	Aughnacureen land drain
Flow rate in receiving waters:	_____ $m^3.sec^{-1}$ Dry Weather Flow _____ $m^3.sec^{-1}$ 95%ile flow
Available waste assimilative capacity:	kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	12.8 m^3	Maximum/day	
Maximum rate/hour			

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

Attachment E.3

Emissions to Sewer

TABLE E.3(i): EMISSIONS TO SEWER(One page for each emission)

Emission Point:

Emission Point Ref. Nº:	Effluent Holding Tank in centre of MRF Building (SE1)
Location of connection to sewer :	N/A Tankered to Tralee WwTP
Grid Ref. (10 digit, 5E,5N):	
Name of sewage undertaker:	Kerry County Council

Emission Details:

(i) Volume to be emitted: 34,600 litres is tankered to Tralee WwTP per annum (5 no. loads of 6,920 litres)			
Normal/day		Maximum/day	
Maximum rate/hour			

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

southern scientific services ltd.

ANALYSIS REPORT

CUSTOMER:	KILLARNEY WASTE DISPOSAL	SAMPLE TYPE:	EFFLUENT
ADDRESS:	Aughacureen, Killarney, County Kerry	CONDITION OF SAMPLE ON RECEIPT :	Satisfactory
		DATE SAMPLED:	04 April 2008
REPORT TO:	BRIAN BRUTON	DATE RECEIVED:	09 April 2008
SAMPLED BY:	BRIAN BRUTON	DATE ANALYSED:	09 – 29 April 2008
SAMPLING PT:	-	DATE REPORTED:	30 April 2008
ORDER NO:	-	WORK NO.:	19668 C

TABLE OF RESULTS

METHOD:	PARAMETER:	*Lab Ref:*	C08-Apr 236
		Your Ref:	Process Effluent – Leachate
* 4500-H$^+$B	pH		7.0
* 2510 B	Conductivity, µS/cm @ 20^{0}C		4.12
SCP 016	COD, mg/L		2800
SCP 015	BOD, mg/L		977.9
	Total Organic Carbon, mg/L		708
*3111B	Magnesium, mg/L		37.5
	Potassium, mg/L		122.88
	Sodium, mg/L		177.0
*3111B	Cadmium, mg/L		0.03
*3111B	Lead, mg/L		0.41
*3111B	Nickel, mg/L		0.39
*3111B	Zinc, mg/L		2.89
SCP 027	*** Ammonia, mg/L NH_4^+-N		20.73
SCP 027	*** Chloride, mg/L		206.3
	*** Sulphate, mg/L		647.4
	*** Total Alkalinity, mg/L		1109.2
	*** Total Organic Nitrogen, mg/L N		4.2

dunrine | killarney | county kerry | ireland | telephone +353 (0)64 33922 | fax +353 (0)64 39022
web site www.southernscientificireland.com | e-mail info@southernscientificireland.com

registered in ireland no 323196 | vat reg no IE 6343196 M

TABLE OF RESULTS

METHOD:	PARAMETER:	*Lab Ref:* *Your Ref:*	C08-Apr 236 Process Effluent – Leachate
*3111B	Iron, mg/L		28.41
*3111B	Copper, mg/L		1.75
*3111B	Manganese, mg/L		1.68
*3111B	Chromium, mg/L		0.10
**	Calcium, µg/L		147.6
***	Mercury, µg/L		<0.05
	Arsenic, µg/L		5

* *Adapted from 'Standard Method for the Examination of Water & Wastewater'.*
** *Analysis carried out by external laboratory.*
*** *Sample filtered prior to analysis.*

Karen Lavery
Chemistry Laboratory

- *The results relate only to the items tested.*
- *The analysis report shall not be reproduced except in full without written approval of the laboratory.*

ANALYSIS REPORT

CUSTOMER:	**KILLARNEY WASTE DISPOSAL**	**SAMPLE TYPE:**	**STORM WATER**
ADDRESS:	Aughacureen, Killarney, County Kerry	**CONDITION OF SAMPLE ON RECEIPT:**	Satisfactory
		DATE SAMPLED:	16 March 2010
REPORT TO:	**BRIAN BRUTON**	**DATE RECEIVED:**	16 March 2010
SAMPLED BY:	Killarney Waste Disposal	**DATE ANALYSED:**	16 March – 19 April 2010
SAMPLING PT:	**TANK**	**DATE REPORTED:**	21 April 2010
ORDER NO:	N/A	**WORK NO.:**	**22989 C**

TABLE OF RESULTS

METHOD:		PARAMETER:	*Lab Ref:*	C10-Mar 366
			Your Ref:	**TANK**
SCP 036	*	**pH**		6.1
** 2510 B	*	**Conductivity, mS/cm @ 20°C**		5.64
SCP 017	*	**Total Organic Carbon, mg/L**		1693
SCP 027		**Alkalinity, mg/L $CaCO_3$**		7229.6
SCP 027a		**Total Ammonia, mg/L as N**		11.85
SCP 016		**COD, mg/L**		69,300
SCP 015		**BOD, mg/L**		13,844.5
SCP 027		**TON, mg/L**		6.41
**3111B	*	**Calcium, mg/L**		995
**3111B	*	**Iron, mg/L**		76.06
**3111B	*	**Magnesium, mg/L**		97.00
**3111B	*	**Manganese, mg/L**		4.56
**3111B	*	**Potassium, mg/L**		274
**3111B	*	**Sodium, mg/L**		357
**3111B	*	**Zinc, mg/L**		2.53
SCP 027		**Chloride, mg/L**		712.89
SCP 027		**Sulphate, mg/L**		1923.78
-	*	**Colour – Visual**		Black
	*	**Odour – Visual**		Unsatisfactory

** **Adapted from 'Standard Method for the Examination of Water & Wastewater'.**

Karen Lavery
Chemistry Laboratory

- **The results relate only to the items tested.**
- **Opinions and interpretations expressed herein are outside the scope of INAB accreditation.**
- **Tests marked '*' in this report are not included in the INAB accreditation schedule for this laboratory.**
- **The analysis report shall not be reproduced except in full without written approval of the laboratory.**

registered office
dunrine | killarney | county kerry | ireland | telephone +353 (0)64 66 33922 | fax +353 (0)64 66 39022
web site www.southernscientificireland.com | e-mail info@southernscientificireland.com

directors: K Murphy, M Murphy & C Murphy
registered in ireland no 323196 | vat reg no IE 6343196 M

Attachment E.6

House Keeping Procedure

Killarney Waste Disposal
STANDARD OPERATING PROCEDURE

SOP No.: EP012 House Keeping Procedure		
Prepared By: _____ **OES Consulting** Approved By: _____ **Environmental Manager** Approved By: _____ **Managing Director**	Date: _____ Date: _____ Date: _____	Rev. No.: 0 Issue Date: 12/01/2007 Page No.: 1 of 4
Distribution Managing Director Environmental Manager Yard Supervisor Transport Manager Accounts Manager	**Cross References** ER006 House Keeping Record ER010 Weekly Environmental Inspection Record	

Revision No.	Date	Reason for Revision
0		New Procedure

1.0 INTRODUCTION

1.1 Purpose

To ensure proper housekeeping of all site areas and that all solid waste (organic), and intermediates are stored correctly prior to shipment/disposal etc.

2.0 SCOPE

This procedure applies to all external site areas at the facility.

3.0 RESPONSIBILITY

The Environmental Manager has responsibility for ensuring that all external site areas are maintained to a high standard of housekeeping and that the personnel responsible for doing so are appropriately trained.

The Environmental Manager or Yard Supervisor is responsible for carrying out this procedure.

4.0 PROCEDURE

Inspections of site areas will be undertaken on an ongoing basis by the designated person.

Each site area will be assigned a reference by the Environmental Manager.

Each location will be rated pass or fail for housekeeping. Pass rating will mean that all materials within the area are appropriately stored and are in sound condition. No windblown or other debris shall be present.

In addition Weekly checks will be carried out on the following items:

External plant environment – will be inspected to ensure the up keeping of access points and monitoring equipment. Car Parking must also be inspected to ensure that environments accidents and employee / visitor inconvenience is minimised.

Perimeter Fencing and Gates - will be inspected for any defects. Temporary repairs shall be carried out by end of working day and permanent repairs must be carried out within 3 working days.

Wheel cleaners - will be inspected, drained as required and any accumulated material shall be removed and disposed of appropriately.

Storm Water – samples of storm water will be collected in sampling container at the discharge point and visually inspected. Drains and gullies within the area shall be free flowing and free of debris or contamination.

Loose litter – any loose litter arising on or in the vicinity of the facility will be removed.

Floor of materials recovery building - will be cleared of waste by the end of each working day.

Odour and Dust - the facility will be checked for odour and dust generation.

All daily checks will be recorded in the Daily Check log and the Environmental Manager will be immediately informed of any defects noted or discolouration of storm water discharge.

Any non conformances highlighted as a result of the checks will be included in the Weekly Environmental Inspections Record ER010 and filed. The Environmental Manager shall initiate corrective action in the event of non-conformances in external site housekeeping.

5.0 RECORDS

All weekly records and associated documentation will be maintained by the Environmental Manager for a minimum period of 1 year.

6.0 REFERENCES

ER006	House Keeping Record
ER010	Weekly Environmental Inspection Record

TABLE E.6 ENVIRONMENTAL NUISANCES

Bird Control	**Control method specified**	**yes** ☐	**no** ☐	**not applicable** ☒
	Attachment included	**yes** ☐	**no** ☐	**not applicable** ☐
Dust Control	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐
Fire Control	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐
Litter Control	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐
Traffic Control	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐
Vermin Control	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐
Road Cleansing	**Control method specified**	**yes** ☒	**no** ☐	**not applicable** ☐
	Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

SECTION F CONTROL & MONITORING

F.1: Treatment, Abatement and Control Systems

Describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation/facility. Details of treatment/abatement systems (air and effluent emissions) should be included, together with appropriately scaled schematics (≤A3) as appropriate.

For each Emission Point identified complete Table F.1 of the Annex, and include detailed descriptions and appropriately scaled schematics (≤A3) of all abatement systems.

Attachment F.1 should contain any supporting information.

F.2- F. 9. Monitoring and Sampling Points

Programmes for environmental monitoring should be submitted as part of the application. These programmes should be provided as **Attachments F.2 to F.6** and meet the advice published by the Agency in the relevant BAT Note. For Landfills the additional **Attachments F.7 to F.8** should be completed. Furthermore for a landfill application the applicant must refer to the Agency *Landfill Monitoring Manual (2003)* for further details on monitoring requirements for proposed facilities.

Include details of monitoring/sampling locations and methods.

See Attachments F2 – F6 for details.

F.2 Air
- to include Dust, Odour

Monitoring Arrangements specified	**yes** ☒	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☒	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.3 Surface Water

Monitoring of surface water shall be carried out at not less than two points, one upstream from the waste facility and one downstream.

Monitoring Arrangements specified	**yes** ☒	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☒	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.4 Sewer Discharge

Monitoring of sewer discharge shall be carried out at the point specified by the local authority/Agency.

Monitoring Arrangements specified	**yes** ☒	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☒	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.5 Groundwater

Groundwater monitoring is required at all landfill facilities; and certain other waste facilities depending on waste activities and the underlying aquifer vulnerability.

Monitoring Arrangements specified	**yes** ☒	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☒	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.6 Noise

Monitoring Arrangements specified	**yes** ☒	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☒	**not applicable** ☐
Attachment included	**yes** ☒	**no** ☐	**not applicable** ☐

F.7 Meteorological Data

Monitoring Arrangements specified	**yes** ☐	**no** ☐	**not applicable** ☒
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☐	**not applicable** ☒
Attachment included	**yes** ☐	**no** ☐	**not applicable** ☒

Application for Landfills require the additional Attachments F.7 to F.8, to be completed:

F.8 Leachate

Monitoring Arrangements specified	**yes** ☐	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☐	**no** ☐	**not applicable** ☐

F.9 Landfill Gas

Complete each of the following tables to show whether information has been included on aspects of landfill gas monitoring. **Attachment F.9** should also contain information to show whether the data given in Tables F.9.(a) and F.9(b) below represents actual or anticipated data. Complete Table F.9 as follows:

Table F.9 (a) Landfill Gas Monitoring for existing landfill gas flares / utilisation plants

Inlet					
Methane (CH_4) % v/v					
Carbon dioxide (CO_2) %v/v					
Oxygen (O_2) % v/v					
Outlet					
Volumetric Flow Rate					
SO_2					
Nox					
CO					
Particulates					
TA Luft Class I, II, III organics					
Hydrochloric acid					
Hydrogen Fluoride					

Table F.9(b) Landfill Gas Monitoring

	Gas boreholes / vents/ wells/ perimeter locations	Facility Office			
Methane (CH_4) % v/v					
Carbon Dioxide (CO_2) % v/v					
Oxygen (O_2) % v/v					
Atmospheric Pressure					
Temperature					

Table F.9 (c) Landfill Gas Infrastructure

Gas Collection System				
Gas Control System				

Monitoring Arrangements specified	**yes** ☐	**no** ☐	**not applicable** ☐
Monitoring points identified, (plus 12-figure grid references)	**yes** ☐	**no** ☐	**not applicable** ☐
Attachment included	**yes** ☐	**no** ☐	**not applicable** ☐

Attachments F.2 – F.6

Monitoring and Sampling Points

Attachments F.2-F.6

Emission/Monitoring Point	Grid Reference (To be confirmed)	Frequency (as per Waste Licence W0217-01)
Dust		Dust deposition quarterly and fine particulates and airborne micro-organisms as required.
D1 (Front Gate)		
D2 (Back of Shed)		
D3 (Back Road)		
Surface Water Runoff		
R1		Weekly Inspections with Annual Monitoring.
R2		
SW1		Daily Inspections with Weekly and Biannual Monitoring.
Ambient Surface Water		
Site B (upstream of facility)		Weekly Inspections with Biannually Monitoring.
Site D (downstream of facility)		
Additional Ambient Surface Water		
Site C upstream of facility		
Site E downstream of facility		
Site A downstream of facility		
Sewer Discharge		
Process Effluent SE1		Annual Monitoring
Groundwater		
GW1/MW1 downgradient		Biannual Monitoring
GW2/MW2 downgradient		
GW3/MW3 upgradient		
GW4/MW4 upgradient		
Noise		
NSL1		Annual Monitoring
NSL2		
NSL3		
NSL4		

Drawing No. DG0035-01 Detailed Site Layout Plan shows the locations of all emission/monitoring points.

SECTION G RESOURCES USE & ENERGY EFFICIENCY

G.1 Raw Materials, Substances, Preparations and Energy

Attachment G.1 should contain a list of all raw, product and ancillary materials, substances, preparations, fuels and energy which will be utilised in or produced by the activity. Information on any insecticides, herbicides or rat poisons etc. should also be provided with their respective data and safety sheets. The Standard Forms, provided in Annex 1, should be used in the description of these materials, substances, etc., where relevant. Additional advice on completing this section is provided in the *Guidance Note*.

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

Electricity is primarily used for the operation of plant machinery, in addition for lighting and heating in the offices. Electricity consumption for 2008 totalled 613,080 kWh and for 2009 totalled 771,149 kWh. Electricity usage increased by 25% in 2009. This increase was due to more efficient picking operations along the conveyer which resulted in slower processing operations requiring more electrical power.

Site vehicles and the onsite generator consume diesel. Diesel usage for 2008 amounted to 121,696 litres and for 2009 amounted to 102,379 litres. Greater fuel efficiencies at the facility have led to an overall decrease in diesel consumption.

G.2 Energy Efficiency

A description of the energy used in or generated by the activity must be provided in **Attachment G.2**.

Attachment included	**yes** ☒ **no** ☐ **not applicable** ☐

An energy audit was carried out in April 2008 which is included in **Attachment G.2.**

SECTION H MATERIALS HANDLING

H.1 Waste Types and Quantities – Existing & Proposed

Provide an estimation of the quantity of waste likely to be handled in relation to each class of activity applied for. This information should be included in Table H.1(a).

TABLE H.1(A). QUANTITIES OF WASTE IN RELATION TO EACH CLASS OF ACTIVITY APPLIED FOR

Waste Management Act 3rd Schedule (Disposal) Activities			Waste Management Act 4th Schedule (Recovery) Activities		
Class of Activity Applied For		Quantity (tpa)	Class of Activity Applied For		Quantity (tpa)
Class 1			Class 1		
Class 2			Class 2		30,200
Class 3			Class 3		1,495
Class 4			Class 4		13,940
Class 5			Class 5		
Class 6			Class 6		
Class 7			Class 7		
Class 8			Class 8		
Class 9			Class 9		
Class 10			Class 10		
Class 11		13,165	Class 11		45,835
Class 12		13,165	Class 12		45,835
Class 13		13,165	Class 13		45,835

Metals	2,000tpa
Timber	1,800tpa
Other C & D waste	500tpa
(Total C & D 4,300tpa)	
WEEE	200tpa
Waste Tyres	250tpa
End-Of-Life Vehicles	250tpa
Organic Waste	2,000tpa
Dry Recyclables	40,000tpa
Mixed Municipal Waste	12,000tpa
Total Waste Intake	**59,000tpa**

Class 2 of 4th Schedule: 30,200 tonnes of organic waste = 27,000 tonnes of paper and cardboard, 2,000 tonnes of segregated organic waste (brown bin) and 1,200 tonnes of RDF sent for recovery.

Class 3 of 4th Schedule: 1,495 tonnes of metal waste = 1,045 tonnes of metals, 200 tonnes of WEEE and 250 tonnes of ELV's sent for recovery.

Attachment G2

Energy Audit

OES | consulting

Killarney Waste Disposal Ltd

Energy Audit

April 2008

Scotia Technology Ltd.
t/a OES Consulting
2nd Floor, FBD House, Fels Point, Tralee, Co. Kerry

T: 066 7128321 F: 066 7180061
Email: info@oes.ie

Killarney Waste Disposal Ltd.

Energy Audit

Disclaimer

This document has been prepared on behalf of and for the exclusive use of Killarney Waste Disposal by OES Consulting on the basis of an agreed Programme of Work Scope.

Conclusions and recommendations contained in this Document are based on information supplied by the Client and others. Unless expressly stated otherwise, information provided by Third Parties has not been verified by OES Consulting.

OES Consulting accepts no liability or responsibility whatsoever in respect of any use of or reliance upon all or part of this Document by any third party.

Document No. 1

Rev	Description	Origin	Review	Changes/Amendments	OES Approval	Date
A	Draft	BT	HF			
B	Internal revisions	HF	MOS			
1	Client issue	HF	BT			
2	Revised with Client changes	HF	MOS			23.05.2008

Scotia Technology Ltd. T/a OES Consulting
Registered Office: 2nd Floor, FBD House, Fels Point, Tralee, Co. Kerry
Tel: 066 7128321 Fax: 066 7180061 Email: info@oes.ie
Registered Number: 376360

Killarney Waste Disposal Ltd.

Energy Audit

Contents

1 Introduction

OES Consulting were commissioned to carry out an energy audit at the Killarney Waste Disposal facility in Killarney, Co. Kerry. The audit was carried out on 10th April 2008. The energy audit is based on a half day visit to the facility.

The following personnel from Killarney Waste Disposal (KWD) were involved in the audit:

Brian Bruton, EHS Manager

The audit was conducted by:

Brona Tennyson, Lead Auditor, OES Consulting
Hilary Fitzgerald, Auditor, OES Consulting

The purpose of the audit was to review the existing energy management system at the KWD facility and identify potential for energy conservation.

This document comprises a report on the audit findings, together with recommendations.

Scope of the Report

The report is structured under three main headings:

- Description of the Facility and processes
- Energy Inputs
- Energy Usage
- Energy Aspects
- Energy Management

1.1 Company History

The Killarney Waste Disposal (KWD), a Material Recovery Facility (MRF), first established in 1987, is located on a site of 2.2 hectares, at Aughacureen; approximately 4 km northwest of Killarney Town. The MRF is situated on a rural site and there is no considerable residential and commercial development in its proximity; the primary land use of the surrounding locale is agricultural with some of the land now being used for commercial forestry.

Killarney Waste Disposal directly employs approximately 32 staff.

Normal operating hours at the facility are 07.00. to 20.00, Monday to Friday inclusive, Saturday 07.00-12.30 and waste is accepted at and dispatched from the facility between the times of 07.30 and 19.30.

1.2 Description of Activity

The Waste Licence Register Number W0217-01 allows for up to 40,000 tonnes of waste to be processed at the facility per annum (Schedule A), this can be broken down as follows:

Table 1 Waste Categories and Quantities KWD are Licensed to Process

Dry recyclable wastes	26,500
Non-Hazardous Construction and Demolition (C&D)	12,000
TOTAL	**38,500**

Waste is accepted from a number of domestic and commercial waste sources in the Cork/Kerry Region. Processed materials are sold to customers for further processing and recycling.

KWD operate licensed waste disposal and recovery activities under the current Waste Licence in accordance with the Third and Fourth Schedule of the Waste Management Acts 1996 to 2005. (Attachment A)

Schedule A of the current Waste Licence also specifies the authorised processes that can be carried out at KWD MRF as set out below:

	Authorised Process
i	The sorting and separation of waste to recover organic substances such as paper and cardboard, plastics, wood, and biodegradable waste (kitchen and canteen waste).
ii	Sorting of metals from other wastes.
iii	Sorting, separation and processing of mixed municipal waste separately collected dry recyclables and non-hazardous Construction & Demolition waste to recover organic substances, inorganic materials and metals.
iv	The drying of organic substances.
v	The shredding of wood.
vi	The baling, wrapping and placing of waste into containers or trailers prior to submission to a recycling facility.
vii	The exchange of recycling at the facility.
viii	The mixing and baling of wastes prior to transfer to another facility for disposal.
ix	Storage of waste prior to recovery/disposal off-site

Process Description

All incoming waste is weighed on the weighbridge which is located near the site entrance.

The waste material is deposited in the MRF at the Waste Intake Area where it is inspected prior to processing. Any load failing inspection is transferred to the quarantine area where it undergoes further inspection and if found to be non complaint is returned to the customer.

Waste for recovery is segregated into the relevant waste steams and depending on the nature of the material is either bailed for further processing offsite or loaded for off site disposal.

Materials undergoing further processing offsite are transferred to the holding area where they are stored until sufficient quantities are available for shipment by container.

The main waste Streams for processing are set out below:

- Mixed Municipal type Waste (MMW), originating from both domestic and commercial sources
- Source segregated waste, which includes organic waste and dry recyclables (plastic, paper and cardboard and packaging waste, glass and metals)
- Timber
- Construction and Demolition (C&D) waste

Dry recyclables are delivered to the facility and processed every week. The processing of C&D waste takes place over a few hours weekly. Storage of the waste is minimised as far as possible with regular shipments off site.

Mixed Municipal Waste

Mixed Municipal Wastes, household and commercial wastes (originating from, factories, offices, hotels, and retail sources) are stored and shipped to North Kerry Landfill.

Dry Recyclables

Source segregated municipal dry recyclables also originate from the same sources as the MMW (the majority of customers both domestic and commercial, have a blue bin along with the black bin collections alternating every second week). The dry recyclables waste stream requires some processing due to its nature. A ballistatic separator is employed in the case of mixed dry recyclables, whereas segregated dry recyclables are simply inspected and baled.

Organics

Organic waste goes directly to bulk trailers and are shipped to an Irish compost facility.

Construction and Demolition (C&D) Wastes

C&I (or C&D) from commercial and industrial sources is tipped internally and pre-sorted to remove bulky items and large metals. The residual material is passed through a Trommel to remove the fine fraction containing subsoil and topsoil. The C&I fines are sent to landfill as cover material. The remaining material (non-fine fraction) is sent over a picking line and segregated into metals, concrete, timber and residual material. Metals are stored pending removal off-site and timber is sent to the on-site timber shredder. Recoverable materials are sent off-site for recovery and residual material goes to landfill.

No hazardous waste is at present accepted at the facility.

2 Primary Energy Inputs

The breakdown of energy consumption by fuel type for KWD is shown in the diagrams below.

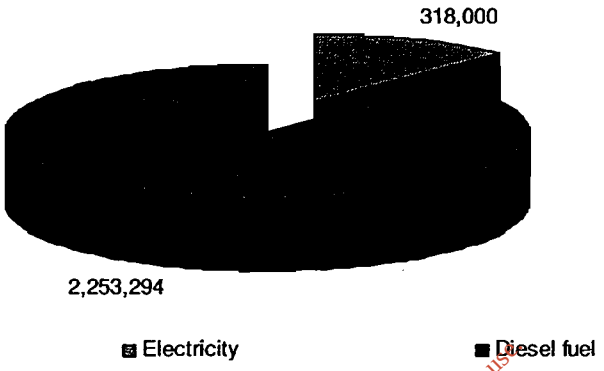


Figure 1 Energy Consumption KWh pa (2007)

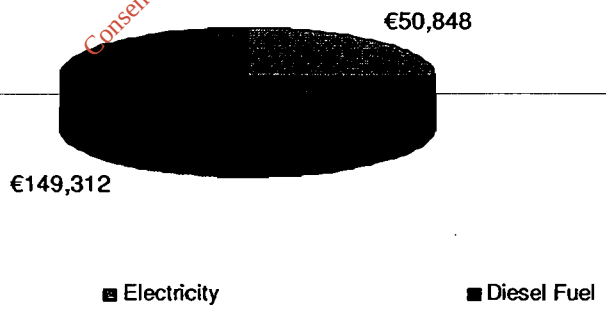


Figure 2 Energy Costs pa (2007)

3 Energy Usage Year 2007

Table 2 Energy Usage Summary (2007)

Fuel	Usage 2007
Diesel (L)	1,927,54
Electricity (kWh)	3,180,00
Fuel Oil (L)	4,000

Table 3 Fuel Consumption Ratio (2007)

Tonnes processed	Process Diesel Usage (kW)	Fuel use/Tonne (kW)
12,000 C&D	720,186.4	60.01

Table 4 Power Consumption Ratio (2007)

Tonnes processed	Electricity Usage (kW)	Fuel use/Tonne (kW)
26,500 Dry recyclable	318,000	14.45

Table 5 Energy Use and Cost Year 2007

Fuel Type	Units	Consumption (2007)	Cost	Proportionate Cost (%)
Electricity	kWh	318,000	€50,848.00	25.4%
Diesel incl. vehicle diesel	kWh	2,308,939	€149,312.00	74.6%

3.1 Major Energy Users

The major energy users in KWD are set out below:

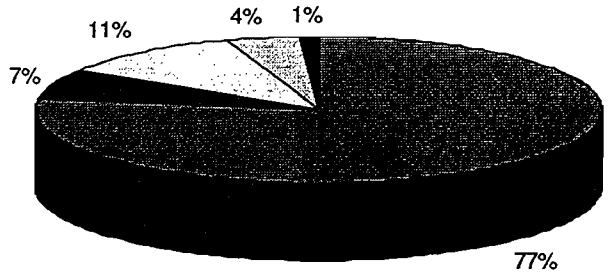


Figure 3 Major Energy users – Electrical Energy

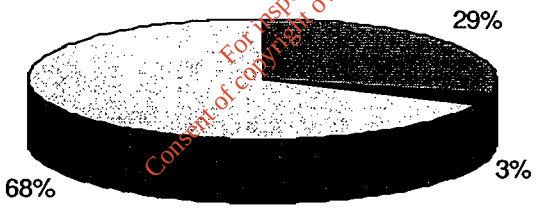


Figure 4 Major Energy users – Fuel Energy

4 Energy Aspects

The Energy Audit involved a brief overview of the following energy aspects –

- Stadler Line
- Waste baler
- Air compressors
- C&D Line
- Timber Shredder
- Company vehicles
- Office equipment
- Lighting
- Heating

4.1 Stadler Line, Waste Baler

Electric motors for the waste baler and Stadler line are the major users of electricity at KWD. This motive power accounts for over 93% of the total electric energy used at the business and 12% of the total energy consumption. Figure 3 above shows the breakdown of energy consumption by the different loads.

The annual cost of running these motors is estimated at over €47k. The drives are powered by three-phase induction motors rated 250kW for the baler and 16 kW for the Stadler line.

The more energy a motor uses, the greater the potential to save energy. A range of options exist to reduce energy consumption by motor drives including measures such as time switches and variable speed drives (VSDs).

The following recommendations should be considered:

- Where not already in use, the use of VSDs, where several discrete speeds or an infinite number of speeds are required, can result in substantial energy savings where they have application.

- The simplest way of reducing energy consumption would be to switch off the motor when it is not needed. Motors may spend long periods of time running with no useful load but they may still have to overcome significant losses in gearboxes, couplings belts or other transmission components.

- Where not already in place, controls are available that detect that the motor is in a 'no load' running condition and after a pre-set time in this state, switch off the motor. In some applications where direct feedback from the load is difficult, e.g. the conveyer loads. This can represent a cost effective solution.

- Switching motors on and off more often can be a simple way to save energy but frequent starts increase wear on the belt drives and bearings while the extra heating due to high starting current can shorten the life of the motor insulation system. Any added maintenance or repair costs arising from the extra wear on the motor due to its more frequent switching on and off should be taken into account when assessing the feasibility of this energy saving technique.

- During the day of audit it was noted that plastic sheeting had fallen from the conveyor onto the motor fan grill. This should be prevented by installing, for example, netting above the motor fans to prevent motors overheating due to the occlusion.

- It was observed during the audit that shift change over was rapid but if the line is left idle for lunch or tea breaks it should be de-energised. Although motors are not loaded during the idling period internal losses can mean that they utilise up to 14% of the rated power.

- Given the relatively high loads on each motor, filters should be cleaned regularly to minimise pressure drops and blades cleaned regularly. Although during the audit the Stadler line ran steadily, the baler system was reported as running approx 70% of that time. Consideration could be given to the use of sensors e.g. an interruptible light beam or motor current sensor to detect when the conveyor is unloaded and switch it off. Consideration could be given to 'zoning' conveyors so that sections that are not in use can be switched off.

- The direct on line starting current for a motor can be six or seven times the normal full current. For larger motors, e.g. the baler motors, this will put demands on the local electrical system and may increase stress on the machine windings. One approach to this is to utilise an electronic soft starter which uses a triac to delay the switching on of the voltage every cycle and thus reduces the effective voltage applied to the motor. Apart from a small energy saving during ramp up, the soft starter does not reduce the energy drawn by the motor. However, it reduces the mechanical wear during starting and stopping, thus allowing energy to be saved by switching motors off more frequently.

- Monitoring motor energy use should be considered. Motors can be monitored with a clip on ammeter; an increase in current drawn by the motor under constant load conditions demonstrates the need for maintenance.

4.2 Air Compressors

Compressed air can cost the equivalent of €0.74/KWh. KWD utilise 2 no. electric compressors: an Atlas 22kW compressor used on the Stadler line and a small 3kW Ingersoll Rand compressor used for maintenance purposes.

The following recommendations should be considered:

- Compressed air system maintenance is an effective energy efficiency measure as the energy consumed is more than 75% of the total cost of an air compressor installation over a typical ten-year life. A slight improvement in efficiency will create a considerable reduction in operating cost. Up to 90% of the energy consumed by an air compressor is converted to waste heat which has to be removed, usually by a fan driven heat exchanger. Dirt in the grills or matrix will reduce the transfer leaving more heat in the system and more work required to cool the output.

- Both compressors should be maintained regularly. Currently, no service contract is in place for either. The use of low quality spares should be avoided to optimise performance and both should be operated at the lowest acceptable pressure.

- Leaks were evident during the day of audit from both compressors. These should be repaired promptly and staff informed to report evident leaks immediately.

- Considerable heat is generated by the Atlas compressor. This rises upwards through an open grill stairway and is lost. Consideration could be given to utilising this generated heat more efficiently for space of water heating for example.

- Pressure drops across filters should be checked regularly and replaced promptly when drops become excessive.

- Considerable volumes of the resources produced can be lost through simple leakage from fittings, reducers, filters and pipe work flanges. One technique for monitoring the degree of leakage is to allow the compressors to work until they off-load in a period when they are not in use e.g. end of shift. The rate of decaying pressure against time for the first 10 or 20 psi drop should be logged. Subsequent similar checks will indicate of maintenance or repair is effective.

4.3 C&D Line

The C&D line is operated by a diesel generator and runs approximately 4 hours per day. The C&D line uses approximately 3% of the total diesel used onsite and just under 10% of process diesel utilised.

The following recommendations should be considered:

- Where not already in place, the use of VSDs, where several discrete speeds or an infinite number of speeds are required, can result in energy savings where they have application.

- The simplest way of reducing energy consumption would be to switch off the motors when they are not needed. Motors may spend long periods of time running with no useful load but they may still have to overcome significant losses in gearboxes, couplings belts or other transmission components.

- Where not already in place, controls are available that detect that the motor is in a 'no load' running condition and after a pre-set time in this state, switch off the motor. In some applications where direct feedback from the load is difficult, e.g. the conveyer loads. This can represent a cost effective solution.

4.4 Timber Shredder

A timber shredder energised by a diesel generator is utilised at KWD for shredding C&I waste timber. The shredder is the main process users of diesel fuel and uses 28% of the total diesel used onsite. The shredder is fitted with 2 no. 125kW motors. On the day of the audit, the shredder was not operational.

The following recommendations should be considered:

- Ensure shredding speeds utilised are not higher than necessary. Continuous running at lower speed and throughput is more efficient than intermittent operation at high speed.
- Verify that shredding is not being conducted on too small particles or grinding used on oversized particles.
- Optimise feed/discharge system and parameters such as speed and flow.
- Use buffer store if downstream operations impose stop/start regime.
- Consider fitting variable speed drives, for example on fans
- Consider installing soft start on main motors.
- Ensure hooked cutting discs are replaced regularly, as per manufacturer's instructions. Production rates may drop, power requirement increase and shred size increase as the cutters wear.
- Remove shredder screen regularly and inspect. Screen wear can result in process inefficiencies.

4.5 Company Vehicles

Company vehicles at KWD utilise 66% of all diesel fuel used on the site. KWD operates 10 diesel waste collection trucks which were originally registered in 1999, 2000 and the majority in 2003. In addition, in the recycling shed, diesel is used to fuel 3 teleporters, 2 bobcats, a forklift and a tractor. Three diesel vans and one pick-up are also used.

The following recommendations should be considered:

- Route efficiency for the waste collection trucks has not been investigated and may present potential energy savings.
- Regular servicing of all vehicles is recommended to optimise performance and energy usage. Typically, vehicle efficiency will reduce by 2% if tyres are under inflated. Inefficiency will increase to 4% if the front wheel tracking is slightly out of alignment. Losses due to poor carburettor settings or blocker air filters can increase losses to 10-20%. Maintenance is therefore worthwhile as each decrease in efficiency of 15 is equivalent to paying approximately €0.10 extra for every gallon of fuel used.
- The need for maintenance is indicated by manufacturers recommended mileage intervals. Consideration should be given to tracking fuel purchasing records. Analyse performance by driver if vehicles are pooled or shared and compare similar vehicles doing similar duties.
- Ensure site rule is adopted to discourage vehicles being left with engines idling.

4.6 Office Equipment

The office areas in KWD require a range of equipment items to function. However, office energy use can be considerably reduced, by up to 70%, at little or no cost.

4.6.1 PCs and Monitors

PCs use almost half of the energy of all office equipment. In general in KWD, flat screen monitors are in use in office areas. These save desk space, use less energy and emit less heat for better comfort. With older PCs, monitors can account for up to two-thirds of energy use and so should be turned off whenever possible.

- Screen savers can be disabled as these are not a proven method of saving energy.
- It should be noted that a single computer and monitor left on for 24 hours per day will cost approximately €67 per annum. Given the number of PCs at KWD, this could result in a not insignificant cost. Switching off PCs out of hours and enabling standby features can reduce this to less than €15 per annum and prolong the lifespan of equipment.
- Both hard drives and screens should be powered off at close of business. It should be noted that laptops use around 10% of the energy of a standard PC and so can be cost effective.

4.6.2 Photocopiers and Printers

Photocopiers and printers in KWD are shared by several people, potentially making it difficult to endure that they are powered off out of hours.

- Consideration could be given to fitting a seven day timer to these to de-energise the equipment out of hours.
- Copiers and printers should be located in naturally ventilated areas with good air flow to reduce air conditioning costs and prevent ozone build up. If this isn't possible, consideration should be given to situating them in colder areas, e.g. the north side of the office building.
- Duplex (double sided) printing should be utilised where possible.
- Lower resolution outputs can be selected on many printers so that pages can be printed faster with less toner.
- Enabling power save options on all equipment can reduce energy consumption by 95%. Switching off or enabling power down modules reduces the energy consumption and heat production by equipment, which in turn lowers cooling costs. Equipment lifespan would be extended and maintenance costs and risk of breakdown will be reduced.

4.6.3 Vending Machine

A vending machine is located in the staff canteen and contains a chiller system. Energy consumption of these units varies depending on the insulating of the casting, temperature settings, internal lighting and the overall site of the machine. If left on continuously, a vending machine can cost approximately €180 per annum in energy costs.

- Consideration could be given to the installation of a plug-in seven-day timer as continual temperature regulation is not required for soft drinks.

4.6.4 Lighting

It was noted during the audit that office lights were switched on despite ample natural light being available on the day.

The following recommendations should be considered:

- Estimate electricity use for lighting in the Process hall. Evaluate more energy efficient alternatives.
- Maximise the use of day light in office area and canteen
- With regard to future developments ensure natural lighting is maximised in production hall so as to minimise the need for artificial lighting.
- Consider reducing number of lamp per light fittings (ensuring that health and safety needs are addressed).
- An energy awareness campaign should be employed for staff to highlight the energy savings achievable through simple measures such as switching off lights in unoccupied areas, during breaks/lunch, when leaving etc. -(lighting costs can be reduced by 20% by only using lights when place is occupied and there is insufficient day light).
- Place "Switch Off" stickers above light switches and awareness posters around workplace.
- Label switches for the areas they control as often lights remain on a people are uncertain which switch controls which light.
- Horizontal blinds can redirect daylight away from the work area and onto the ceiling and walls. This will brighten the space and eliminate glare particularly if walls are a pale colour. This can reduce need for electrical lighting.
- Clean windows, glass fittings and roof lights on a routine basis as the build up of dirt reduces light level.
- Failing lamps and dirty fittings reduce the quantity (and sometimes the quality) of light that enters the room, as well as costing in terms of energy and can lead to unnecessary use of task lighting.
- Replace blackened, flickering, dim or failed lamps immediately.

- During maintenance (production hall) consider if there are move efficient alternatives.

- Consider use of Occupancy Sensors and photo-electric cell (light) sensors. For example in canteen and toilets and for external lights in winter.

- Sensors can achieve up to 30% reduction on lighting costs.

4.6.5 Heating

Oil heating is utilised in the office areas since January 2007. In the processing areas plug in electric storage heaters are in evidence in the Trommel and Dry Recyclables portacabins although none of these were energised during the audit.

- During the audit, the potential for introducing a wood burning central heating unit was mentioned. Given that with the use of the timber shredder KWD could potentially provide their own fuel, i.e. shredded waste wood, this could be a good option to reduce fuel use. It would also reduce any disposal costs for removal of waste wood to landfill. This option would also offer compelling environmental benefits – the carbon dioxide emitted by the combustion of wood is less than that absorbed by a tree in the course of its lifetime.

- In the office area, the thermostats were set to relatively high settings and the temperature in some office areas seemed excessively high. Lowering room temperatures by 1 ℃ can reduce annual heating bills by an estimated 8-10%.

- Ensure thermostats are located in the correct area as per manufacturer's instructions, to avoid false readings, i.e. away from draughts a, direct sunlight and heat sources such as radiators and office equipment.

- The oil boiler should be serviced annually and a combustion report requested. The combustion report will indicate flue gas temperature and this is an indicator of efficient combustion. Typically a thermometer in the flue will show a certain temperature at full firing after boiler maintenance and cleaning. When this flue temperature rises by 40℃ above the original, this is an indication that cleaning is required.

- Insulation around the boiler and all pipe work should be checked. Damaged or missing sections should be replaced.

5 Energy Management System

Energy Management at Killarney Waste Disposal consists of receiving the ESB and Fuel bills. While energy use is a key concern of management and has been a key consideration in the design and selection of equipment. The on-going consumption and efficiency of energy use in not closely monitored.

5.1 Recommendation

- An excel spreadsheet should be set up for recording electricity and fuel consumption and cost.
- Production/through put figures should be inputted into the spreadsheet so that efficiency can be traced.
- Energy consumption should be reviewed on a monthly basis
- Consider undertaking ongoing energy readings where electricity meter is read on -

  1. Daily basis.
  2. Start / and end production.
  3. When industrial items are running.
  4. During breaks – to determine office use.

- Consider use of portable meter to determine actual use of specific equipment verses actual use.

5.2 Energy Performance Indication

Energy Performance Indications enable a company to quantify energy consumption cost against important parameters such as production.

This can focus attention on relevant data rather than accumulating a wealth of data which is difficult to interpret.

Recommended EPI's for this could be –

1. Electricity Consumption (kWh) per tonne of material produced
2. Diesel consumption (L) per tonne of material produced.

5.3 Energy Policy

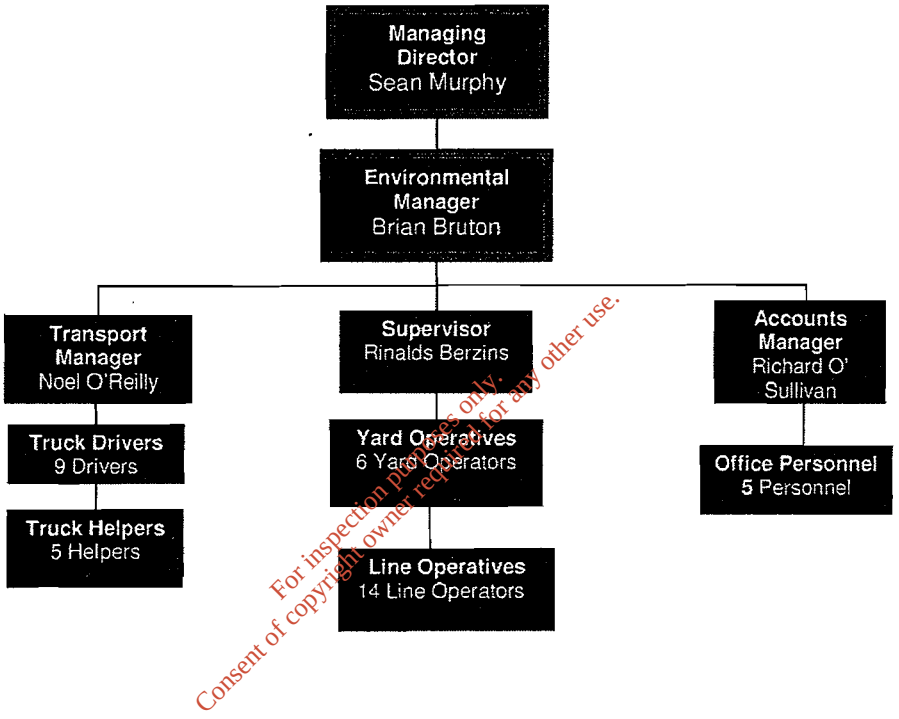
As part of the audit the energy management system was assessed. Killarney Waste Disposal do not have a specific energy policy.

Recommendations:
Given the significance of energy as business cost for the site a more detailed energy policy should be developed which reflects the management commitment to energy efficiency.

5.4 Responsibilities for Energy Management

A copy of the Environmental Management Structure for the facility is outlined in Figure 5.

Figure 5 Company Organisational Chart



- Responsibilities for Energy management should be clearly defined.
- The responsibilities of all personnel in achieving energy efficiency should be defined.

5.5 Energy Awareness

Currently there is no system in place for energy awareness training or energy awareness campaigns. Research has shown that by simply making employees aware of energy efficiency can result in a 2% increase in energy efficiency.

Recommendations:
Killarney Waste Disposal should consider an energy awareness campaign for the site.

- Provide staff with information on energy consumption and cost
- Show how energy saving measures can reduce consumption and cost

- Encourage staff to report wastage
- Encourage staff to provide input on how tasks may be carried out in a more energy efficient manner
- Make sure communication is a two way system and that achievements are reported and acknowledged
- Consider an incentive scheme

5.6 Procedures

There are no specific procedures in place which deal with energy use or monitoring

- The company should use any procedures already in existence or being developed within its management systems and integrate an energy component into the procedure, where applicable.
- The company should ensure that all capital purchases contain energy efficiency/usage criteria where appropriate, by modifying the procedure for vetting new equipment.
- All new projects should be assessed for energy efficiency.

5.7 Internal Audit

Currently there is no existing system of energy audits at KWD.

Recommendations
Killarney Waste Disposal should consider undertaking internal energy audits as a means of identifying on going opportunities for improvements in energy efficiency.

Class 4 of 4th Schedule: 13,940 tonnes of inorganic waste = 2,400 tonnes of dry recyclables from mixed municipal process, 2,290 tonnes of C&D waste (3,535 tonnes total – 1,045 tonnes metals), 250 tonnes of waste tyres, and 9,000 tonnes segregated dry recyclables (36,000 tonnes total – 27,000 tonnes paper and cardboard) sent for recovery.

Class 11, 12 & 13 of 3rd Schedule: Total tonnage sent for recovery = 45,835 tonnes
Class 11, 12 & 13 of 4th Schedule: Total tonnage sent for disposal = 13,165 tonnes

Incoming	Outgoing
12,000 tonnes mixed municipal waste	• 1,200 tonnes RDF sent for energy recovery. • 2,400 dry recyclables sent for recovery. • 8,400 tonnes (residual and organic fines (stabilised)) sent for disposal.
40,000 tonnes segregated dry recyclables	• 36,000 tonnes sent for recovery (27,000 of this is paper and cardboard). • 4,000 tonnes sent for disposal.
4,300 tonnes C&D waste	• 3,535 tonnes sent for recovery (1,045 tonnes of this is metals) • 765 tonnes sent for disposal.
2,000 tonnes segregated organic waste (brown bin)	• 2,000 tonnes sent for recovery.
250 tonnes of ELVs	• 250 tonnes metal sent for recovery
250 tonnes of Waste Tyres	• 250 tonnes sent for recovery
200 tonnes of WEEE	• 200 tonnes sent for recovery

In Table H. 1 (B) provide the annual amount of waste handled/to be handled at the facility. Additional information should be included in **Attachment H.1.** The tonnage per annum should be given of that expected for the life of the licence, with at least the next five years tonnages provided. For Landfill Review applications provide an estimate of the quantity of waste already deposited in (i) lined cells; (ii) unlined cells.

TABLE H.1(B) ANNUAL QUANTITIES AND NATURE OF WASTE

Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2004	16,500		16,500
2005	40,000		40,000
2006	40,000		40,000
2007	*44,714*		*44,714*
2008	*45,234*		*45,234*

2009	*43,405*		*43,405*
2010	59,000		59,000
2011	59,000		59,000

A detailed inventory of the types and quantities of wastes currently handled at the site and proposed to be handled should be submitted as Table H.1 (C).

TABLE H.1 (C) WASTE TYPES AND QUANTITIES

WASTE TYPE	TONNES PER ANNUM (existing)	TONNES PER ANNUM (proposed)	TOTAL (over life of site) tonnes
Household	11,000	35,100	
Commercial	17,000	18,900	
Sewage Sludge			
Construction and Demolition	12,000	4,300	
Industrial Non-Hazardous Sludges			
Industrial Non-Hazardous Solids		250 (waste tyres)	
Hazardous *(Specify detail in Table H 1.2)**		450	
Inert Waste imported for restoration purposes	COMPLETE FOR LANDFILL & CONTAMINATED LAND FACILITIES ONLY		
Total	40,000	59,000	

***The eventual tonnage of each waste category may vary between categories however the waste intake of 59,000 tonnes per annum will not be exceeded.**

*** TABLE H.1.2 HAZARDOUS WASTE TYPES AND QUANTITIES**

HAZARDOUS WASTE	DETAILED DESCRIPTION * REFERENCE SHOULD BE MADE TO THE RELEVANT EUROPEAN WASTE CATALOGUE CODES AS PRESENTED BY COMMISSION DECISION 2000/532/EC	Tonnes Per Annum (Existing)	(Tonnes Per Annum Proposed)
Waste Oil			
Oil filters			
Asbestos			
Paint and Ink			
Batteries			
Fluorescent Light Bulbs			

Contaminated Soils			
OTHER HAZARDOUS WASTE (APPLICANT TO SPECIFY)			
End-Of-Life Vehicles **WEEE**	Refer to EWC Codes in Attachment H1		250 200

Attachment H.1 should contain any relevant additional information.

It should be noted that an applicant may be issued with a licence which restricts the type of wastes which may be deposited.

Attachment H1

The different proposed waste types and their associated EWC Codes is given in the table below:

Waste	EWC Code
Mineral-based chlorinated hydraulic oils	13 01 09*
Mineral-based non-chlorinated hydraulic oils	13 01 10*
Synthetic hydraulic oils	13 01 11*
Readily biodegradable hydraulic oils	13 01 12*
Other hydraulic oils	13 01 13*
Mineral based chlorinated engine, gear and lubricating oils	13 02 04*
Mineral based non-chlorinated engine, gear and lubricating oils	13 02 05*
Synthetic engine, gear and lubricating oils	13 02 06*
Readily biodegradable engine, gear and lubricating oils	13 02 07*
Other engine, gear and lubricating oils	13 02 08*
Fuel oil and diesel	13 07 01*
Petrol	13 07 02*
Other fuels (including mixtures)	13 07 03*
Chlorofluorocarbons, HCFC, HFC	14 06 01*
Other halogenated solvents and solvent mixtures	14 06 02*
Other solvents and solvent mixtures	14 06 03*
Paper and cardboard packaging	15 01 01
Plastic packaging	15 01 02
Wooden packaging	15 01 03
Metallic packaging	15 01 04
Mixed packaging	15 01 06
Glass packaging	15 01 07
End-of-life tyres	16 01 03
End-Of-Life Vehicles	16 01 04*
End-of life vehicles, containing neither liquids nor other hazardous components	16 01 06
Oil filters	16 01 07*
Components containing mercury	16 01 08*
Components containing PCBs	16 01 09*
Explosive components (for example airbags)	16 01 10*

Brake pads containing asbestos	16 01 11*
Brake pads other than those mentioned in 16 01 11	16 01 12
Brake fluids	16 01 13*
Antifreeze fluids containing dangerous substances	16 01 14*
Antifreeze fluids other than those mentioned in 16 01 14	16 01 15
Tanks for liquefied gas	16 01 16
Ferrous metal	16 01 17
Non-ferrous metal	16 01 18
Plastic	16 01 19
Glass	16 01 20
Hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14	16 01 21*
Components not otherwise specified	16 01 22
Wastes not otherwise specified	16 01 99
Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14
Discarded equipment containing hazardous components ([16]) other than those mentioned in 16 02 09 to 16 02 12	16 02 13*
Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*
Lead Batteries	16 06 01*
Other batteries and accumulators	16 06 05
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixture of concrete, bricks tiles and ceramics other than those mentioned in 17 01 06	17 01 07
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Copper, bronze brass	17 04 01
Aluminium	17 04 02
Lead	17 04 03
Zinc	17 04 04
Iron and Steel	17 04 05
Tin	17 04 06
Mixed metals	17 04 07
Cables other than those mentioned in 17 04 10	17 04 11
Soil and stones other than those mentioned in 17 05 03	17 05 04
Dredging spoil other than those mentioned in 17 05 05	17 05 06
Gypsum-based construction materials other than those mentioned in 17 08 01	17 08 02
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02, 17 09 03.	17 09 04
Ferrous metal	19 12 02
Paper and cardboard	20 01 01
Glass	20 01 02
Biodegradable kitchen and canteen waste	20 01 08
Discharged equipment containing chlorofluorocarbons	20 01 23*