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ENVIRONMENTAL PROTECTION  
AGENCY  
17 OCT 2005

Office of Licensing & Guidance,  
EPA Headquarters,  
P.O. Box 3000,  
Johnstown Castle Estate,  
Co. Wexford.

11<sup>th</sup> October 2005

Our Ref: MGE0031LT0028GAL  
File Ref: 340

SCANNED  
- 9 FEB 2006

Re: Killarney Waste Disposal – WL217-1

Dear Sir/Madam,

We refer to the above application for a Waste Licence for Killarney Waste Disposal and to EPA correspondence dated 11<sup>th</sup> August 2005 requesting additional information in compliance with Article 13 and in accordance with Article 14(2)(b)(ii) of the Waste Management (Licensing) Regulations and our correspondence dated 17<sup>th</sup> June 2005, 14<sup>th</sup> July 2005, 20<sup>th</sup> September 2005, 23<sup>rd</sup> September and 27<sup>th</sup> September 2005.

We now enclose 1 no. original and 2 no. copies plus 16 no. CD-ROM copies.

We are providing this information on behalf of Killarney Waste Disposal.

We trust this is satisfactory, but please do not hesitate to contact the undersigned if you have any queries.

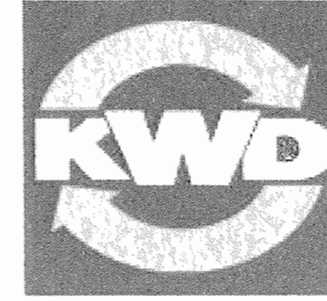
Yours sincerely,

*Siobhan Aherne*

**Siobhan Aherne**  
Senior Project Scientist  
For and on behalf of RPS Consulting Engineers

sa/sa

Encl.



# **KILLARNEY WASTE DISPOSAL**

## **ARTICLE 13 REQUIREMENTS WASTE LICENCE APPLICATION WASTE LICENCE 217-1**

**October 2005**

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## DOCUMENT CONTROL SHEET

Client	Killamey Waste Disposal Ltd					
Project Title	Killamey Waste Disposal Waste Licence Application					
Document Title	Article 13 Compliance Requirements					
Document No.	MGE0031RP0011GAL					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	13	1	1	4

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Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	S. Aherne	K. Garvey	W. Madden	Galway	10/10/05

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**Outline the main alternatives studied as the alternative considered is a baseline situation not a realistic alternative to the project. Indicate the main reasons for the choice taking into account the effects on the environment.**

It was considered that any potential impacts from the proposed extension on the environment would be less than if another site was developed. The existing facility through investment and the upgrading of infrastructure and the best available technology would ensure that any potential impacts on the environment are minimal.

**Update the EIS to reflect the current waste licence application in particular consider Table 2.1, the proposed site layout plan and chapters 2 and 4 of the EIS.**

Drawing No. 02-034-J4-MCOS2F03 Site Layout Plan has been updated. There are 4 no. entrances to the new MRF building. The quantities in Table 2.1 have been updated as follows:

**Table 2.1: Proposed Types/Quantities of Waste to be Accepted at KWD**

Waste Type	Maximum Tonnes per Annum
Mixed municipal waste	15,500
Organic waste (kitchen and canteen waste)	6,000
Dry recyclable wastes	6,500
Construction and Demolition waste	12,000
<b>Total Waste</b>	<b>40,000</b>

Section 4.3 on Air Quality and Sections 3.4 and 4.4 on Noise in Volume II of the EIS have been updated as follows:

### 4.3 AIR QUALITY

#### Potential Impacts

##### Construction Phase

Construction activities may generate quantities of dust, particularly in drier weather conditions. Construction vehicles transporting materials to and from the site could generate dust and cause environmental nuisance.

##### Operational Phase

It is proposed to use a vortex dryer at the facility for organic waste and this dryer has a direct emission to the atmosphere. Fugitive dust will be produced from activities on site and traffic movements. Odours can be a potential nuisance from facilities that store waste and arise mainly from the uncontrolled anaerobic biodegradation of waste. Road traffic generated by the facility will also have an impact on air quality due to exhaust emissions.

##### “Do Nothing” Scenario

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The baseline air monitoring results indicate that air quality in the vicinity of the proposed development is good and shows typical levels for a rural area with all pollutants within the relevant EU limits at all locations. The air quality may improve slightly in future years due to improvements in engine technology and greater controls on petrol, diesel, coal and gas composition and purity. If the proposed development were not to take place, the current air pollutant concentrations will remain unchanged followed by potential decreases in future years for the reasons outlined above.

## Mitigation Measures

### Construction Phase

The following mitigation measures are produced during the construction phase:

- Site roads will be regularly cleaned and maintained as appropriate;
- Site roads should be watered during dry and/or windy conditions;
- Site stockpiling of materials shall be designed and laid out to minimise exposure to wind.

### Operational Phase

The emission of pollutants from road traffic can be controlled by either reducing the number of road users or by controlling the flow of traffic. For the majority of vehicle-generated pollutants, emissions rise as speed drops. Emissions are also higher under stop-start conditions when compared with steady speed driving. The free flow of traffic in the vicinity of the proposed development is essential in order to minimise the generation of traffic related pollutants. The proposed remediation measures will assist with the free-flow of traffic in the area.

Having regard for the draft BAT Guidance Note for the Waste sector: Transfer Activities (November 2004) the measures to control and reduce dust emissions at the facility include the following:

- Regular sweeping of the facility with the automatic sweeper will control the amount of dust generated.
- The surrounding trees will attenuate the dust generated from the proposed facility.
- A mobile water sprayer will be employed during dry weather conditions to reduce dust emissions.
- Plant equipment used on site will be regularly maintained to prevent excessive exhaust emissions of particulates and other pollutants
- The timber shredder will be housed on three sides to reduce dust being emitted into the atmosphere.
- Regular dust monitoring will indicate if the levels are exceeding the standard limits.

From the proposed facility emissions of dust will be generated from the processing and storage of C&D waste, the drying of organic waste within the MRF building and the processing and storage of timber outside. Dust will also be generated from traffic travelling to and from the facility. Dust emissions from the vortex dryer will be reduced by the air filter. Dust emissions associated with timber shredding will be minimised as it is proposed to enclose the timber shredder. It is likely that the increase in particulate emissions at the facility will only be minimal as most of the operations take place indoors. It is unlikely that the emission limit of 350 mg/m<sup>2</sup>/day will be exceeded and the annual monitoring required under the proposed waste licence will confirm this.

The potential for odour emissions is minimised by a series of design features, work practices and mitigation measures at the facility. These measures are outlined briefly below:

- All organic and mixed municipal waste is processed indoors and this significantly reduces any odour emissions from the waste.

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- All work surfaces and floors are cleaned and regularly maintained to a suitable standard to prevent the build up of anaerobic bacteria. All areas where there is a potential for the generation of odour (i.e. temporary storage areas, skips, bins, etc) are covered to reduce the potential for escape of odours.
- Residence time for waste, even non-odorous waste, will be kept to a minimum before transfer.

As there is currently no odour problems at the facility and with the proposed increase in waste intake it is envisaged that the emissions of odour will be adequately controlled with the mitigation measures outlined and it has been decided that an odour abatement system (biofilter) is not necessary.

### 3.4 NOISE

Biospheric Engineering Ltd undertook a study to assess the potential impact of the noise aspects from the Killarney Waste Disposal facility. A full copy of this report is attached in Volume III, Appendix D of this EIS.

Noise monitoring was carried out at three locations (one at the facility and two at the nearest noise sensitive locations). Drawing No DG0001-05 provides details on the locations of these monitoring points.

The noise levels at the noise sensitive locations are determined by the road traffic noise on local roads rather than any noise arising from the licensed activities and so the licensed activity complies with EPA guidance for licensed activities during the day time.

Noise levels are below the NRA guideline values for traffic noise and the projected increase in traffic levels as a result of the proposed development will not significantly increase traffic noise levels.

### 4.4 NOISE & VIBRATIONS

In September 2004 an initial noise assessment was carried out and in September 2005 an updated noise assessment was carried out by Biospheric Engineering Ltd. (full assessment is included in Appendix A).

The two main noise sources that need to be assessed are the timber shredder and the air compressors outside of the MRF building. From the two assessments the noise monitoring results show that all activities on site at the site boundary and the noise sensitive locations do not exceed the EPA guidance limit of 55 dBA with the exception of the shredding operation outdoors which results in a noise level of 56 dBA. The background noise level (L90) is increased significantly when shredding takes place i.e. an increase of over 20 dBA with some tonal component. Therefore mitigation measures are required to keep within the required emission limit. It is proposed to create an enclosure for the shredder outside and this will certainly result in a sufficient reduction to remain within the emission limit. In the interim shredding will be limited to 3 hours per day carried out in mid morning when the site traffic is light and a temporary noise barrier is created using bales of materials to reduce noise levels North of the site.

The air compressors are not a significant problem and the proposed enclosure for the production compressor will be adequate to mitigate the situation. The generator has been relocated as shown in Drawing No. DG0004-01F03 thus reducing its noise impact on sensitive receptors.

**Give details of the proposed processing plant and equipment including the size of the proposed effluent tank. Give details of the final disposal arrangements for the puraflo effluent. Provide a layout plan that includes all equipment and storage areas in the proposed development.**

The proposed processing plant and equipment have been updated. Three loaders will be used at the facility. It is proposed to use a bag opener and trommel and a ballistic separator to cater for the

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increase in waste intake. It is also proposed to use a vortex dryer for the organic waste. A heat exchanger and two compressors are located outside the building and are connected to the dryer inside. A shredder shreds the organic waste before being sent for drying. An air filter traps any dust emissions which are re-circulated back into the drying process before emitting the filtered air to the atmosphere. Subsequent to drying the organic waste is sent to a pelletiser. The layout of the proposed MRF building has been updated showing the locations of all process equipment (Drawing Drawing No. DG0004-01F03). The quarantine area has been re-located. All waste is inspected on arrival in the inspection and sorting area. If any consignment is non-compliant the customer will be notified and it will be returned to the customer. In cases where the waste can not be returned to the customer it will be temporarily stored in the quarantine area.

The processing of mixed municipal waste produces an effluent. The new processing building will have effluent holding tank in the centre of the building. This precast concrete holding tank will be 6,920 litres or 1,500 gallons in capacity and will be lined with a 2.5mm thick HDPE liner. A bunding tank will be constructed around the tank which will have a capacity of 3,500 gallons. The effluent will be sent to Killarney WWTP for treatment.

Timber processing will continue to take place outdoors. Drawing No. 02-034-J4-MCOS2F03 Site Layout Plan has been updated to show the location of the timber processing area and the storage areas for timber and metal, generator, heat exchanger, compressors and the proposed new location for weighbridge.

Currently the domestic effluent treatment system on site consists of a septic tank. A puraflo treatment unit and raised percolation area is required to be installed as per original planning permission Reg No. 337/03. It is proposed to install this puraflo system and percolation area immediately. The proposed puraflo unit and associated percolation area will be designed, located, constructed and maintained in accordance with the manufacturer's instructions. As a result of an assessment carried out by Bord na Móna the puraflo system and percolation area is to be installed on mound of imported soil 65m<sup>2</sup> x 1m high. The material to be used in the mound shall consist of an imported sandy clay loam with a T value of 15-30 (soil group 2). A catchment drain will be installed to the nearest outfall to cater for any seepage from the raised percolation area. The design of the puraflo system and percolation area has been approved by Kerry County Council. The design of the domestic effluent system is in line with the requirements of EPA Wastewater Treatment Manuals.

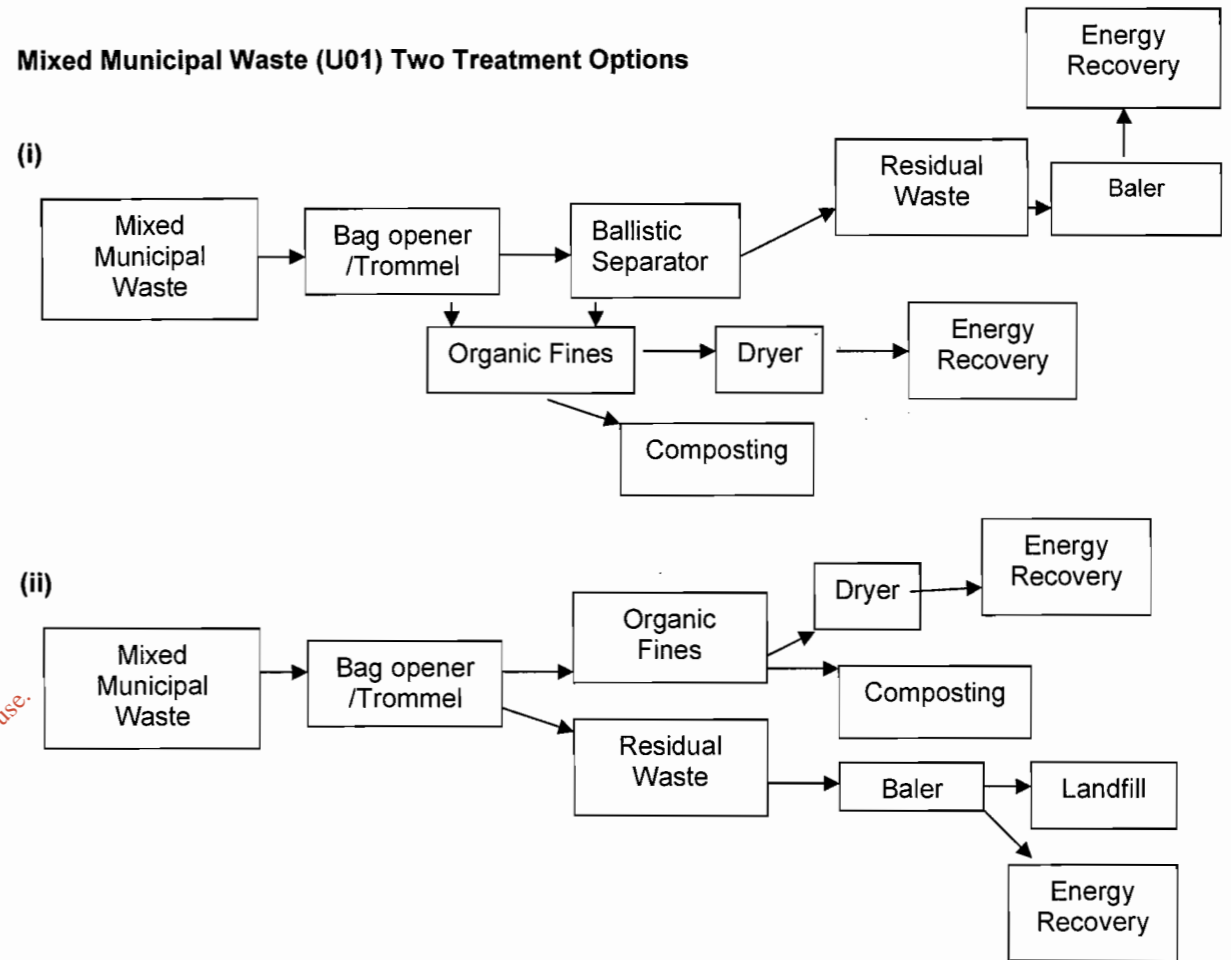
**Describe the operating processes and give details of the nature and quantity of raw materials used including energy.**

The main waste streams for processing are as follows:

- **Mixed Municipal Waste;**
- **Source segregated waste, which includes organic waste and dry recyclables (plastic (bottles and film), paper, cardboard and packaging waste, glass, metals);**
- **Timber;**
- **Construction & Demolition Waste.**

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**Mixed Municipal Waste (U01) Two Treatment Options**

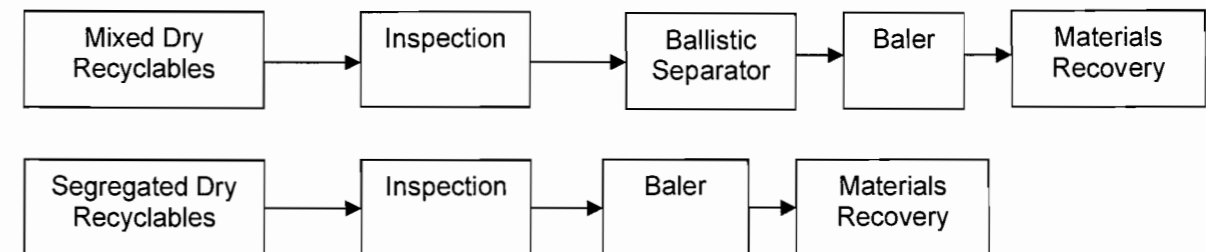


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Waste is tipped onto the inspection and sorting area. Then the material is inspected and any hazardous waste is removed and placed in the quarantine area. There are two processing routes for mixed municipal waste as shown above. The finer organic particles are separated from the rest of the residual mixed waste. The residual waste is baled and wrapped in a plastic film to ensure that the bales remain intact. These bales are stored in the facility and then transferred to landfill or exported to an energy recovery facility. The separated organic fraction of the waste is sent either to a composting facility for further processing or sent to the dryer to decrease the moisture content and then to an energy recovery facility.

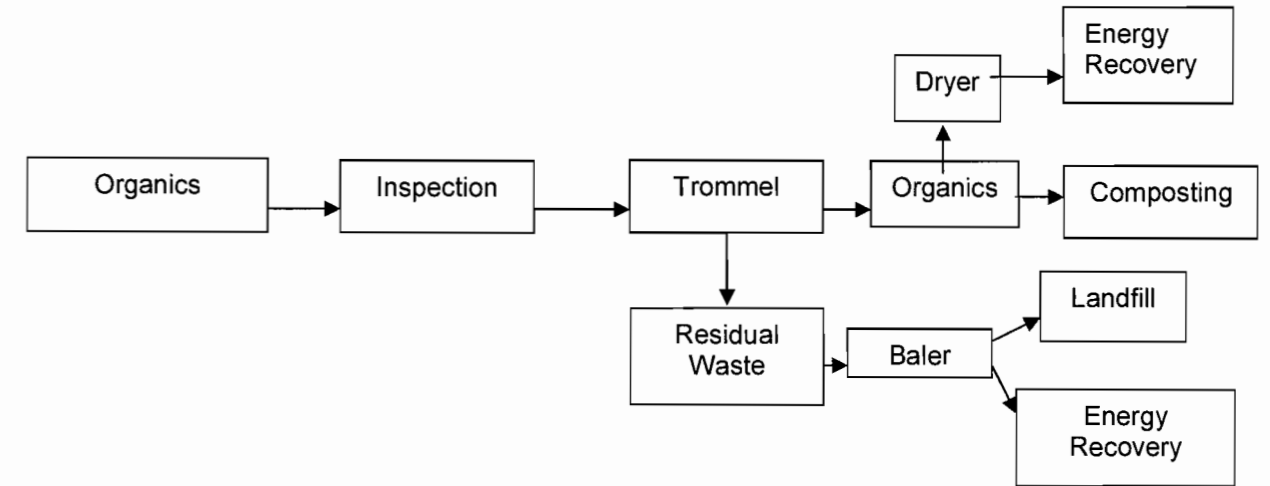
**Municipal Waste Source Separated Dry Recyclables (U002)**

Dry recyclables will require very little processing. The waste is tipped onto the floor of the processing building for inspection. The segregated dry recyclable waste is transferred to a conveyor belt which feeds the material into the baler. The waste is then transported off-site to licensed recovery facilities. The mixed dry recyclables are passed through the ballistic separator and onto the baler.



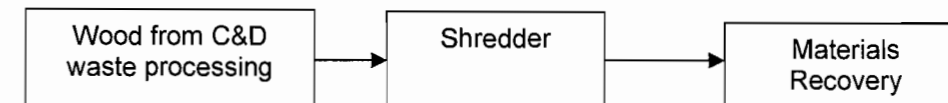
**Municipal Waste Source Separated Organics (U03)**

Source segregated organic waste is inspected initially and then put through the trommel for processing. The finer organic particles are separated from the rest of the residual mixed waste. The residual waste is baled and wrapped in a plastic film to ensure that the bales remain intact. These bales are stored in the facility and then transferred to landfill or exported to an energy recovery facility. The separated organic fraction of the waste is sent either to a composting facility or sent to the dryer to decrease the moisture content and then to an energy recovery facility.



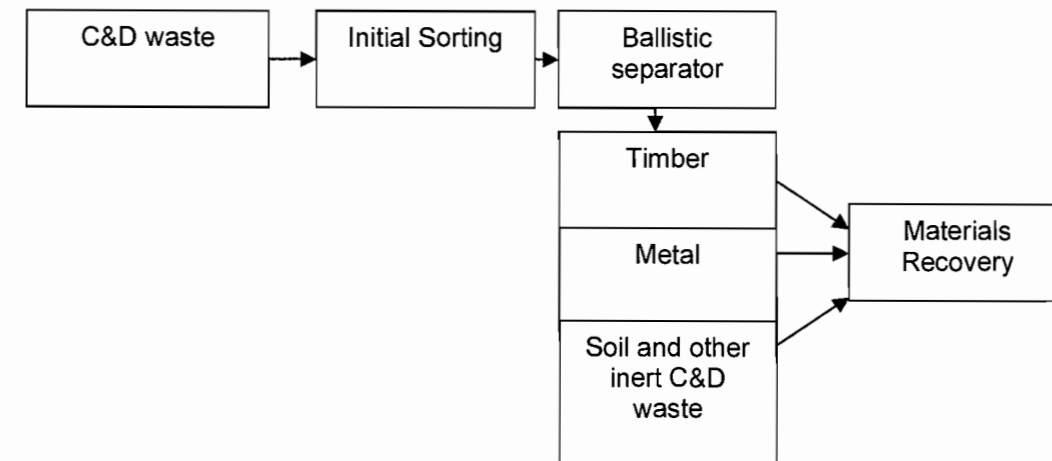
**Municipal Waste Source Separated Timber (U04)**

Timber will be stored until a viable quantity has accumulated. It is then put through the shredder which is located outside. The shredded wood is then transported to a recovery facility.



**Construction & Demolition Waste (U05)**

C&D waste is tipped on the floor of the materials recovery building where it is inspected and sorted with loaders and large pieces of waste are removed. The ballistic separator sorts the waste further into the various fractions of metal, timber, soil and other C&D waste. The timber will be shredded outside. The metal and timber will be stored until there are sufficient volumes for transport for further processing. The soil and other inert C&D waste is transported to the waste permitted site operated by KWD.



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Dry recyclables are delivered to the facility and processed every second week. C&D waste is processed for a few hours once a week. For the remainder of the operating time mixed municipal waste is processed. There is not much requirement for storage as there are regular shipments from the facility. The plant machinery is cleaned prior to changing from one waste stream to another.

Electricity is used for lighting and heating in the offices. The site vehicles and the on site generator that provides power to the machinery require fuel usage. Currently approximately 1020 units of electricity and 25,000 litres of fuel are used per annum at the facility. However the fuel usage will increase with the upgrading of the operating processes. No other raw materials are used in processing.

**Describe the types, quantities and composition of liquid effluents generated. Describe the methods for collecting, storing and treating, transporting and disposing of these liquid effluents.**

The processing of mixed municipal waste produces a liquid effluent. The composition of the effluent will be similar to landfill leachate. The effluent was previously sent for analysis however we recommend that the effluent is re-analysed as the results for BOD and COD are significantly higher than expected (compared to maximum BOD and COD concentrations for leachate referenced in the EPA Landfill Site Design Manual). The effluent will be re-analysed when more effluent is available following the commencement of processing at the facility. Approximately 6.8m<sup>3</sup> of effluent is produced per month at the existing facility. With the proposed increase in waste intake it has been estimated that the maximum effluent generated will be 13.5 m<sup>3</sup> per month. The new processing (MRF) building will have effluent holding tank in the centre of the building. This precast concrete holding tank will be 6,920 litres or 1,500 gallons in capacity and will be lined with a 2.5mm thick HDPE liner. A bunding tank will be constructed around the tank which will have a capacity of 3,500 gallons. The effluent will be transported by tanker to Killarney WWTP for treatment.

The processing of timber and the outdoor storage of timber and metals will take place on a concreted area and any effluent emissions/runoff will drain to a holding tank from where it will be pumped to the oil and solids separator and then on to the lagoon/reed bed/percolation system. The oils and solids separator will remove oil and solids from the effluent. This will be emptied on a regular basis as appropriate and the contents disposed of to a suitably licensed facility. The lagoon and the reed bed will be lined to prevent leakage and to protect groundwater and surface water quality. The lagoon is intended to act as a balancing tank but will also provide some treatment through further settlement of solids. The constructed wetland will further treat the effluent. The outlet from the constructed wetland to the percolation area will be monitored to ensure that treatment from the storm water treatment system is effective. The treated discharge from the constructed wetland drains to a percolation ditch as shown in Drawing No. 02-034-J4-MCOS2F03. The final disposal route is therefore to surface water. The composition of runoff is not known at this time but can be analysed for if required. It has been calculated that the total surface water runoff for the site is 12.8m<sup>3</sup>/day.

**Describe the existing air quality in terms of odour.**

**Quantify odour and particulate matter emissions generated by the proposed development. Give details of the methods of collecting, storing, treating and finally disposing these emissions as appropriate.**

On the days that air monitoring was being carried out (23/07/04 and 24/08/04) for the air quality assessment by RPS no odour was present at the site and to date no complaints have been received by the public with regard to odour.

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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 design features, work practices and mitigation measures at the facility. These measures are outlined briefly below:

- All organic and mixed municipal waste is processed indoors and this significantly reduces any odour emissions from the waste.
- All work surfaces and floors are cleaned and regularly maintained to a suitable standard to prevent the build up of anaerobic bacteria. All areas where there is a potential for the generation of odour (i.e. temporary storage areas, skips, bins, etc) are covered to reduce the potential for escape of odours.
- Residence time for waste, even non-odorous waste, will be kept to a minimum before transfer.

As there is currently no odour problems at the facility and with the proposed increase in waste intake it is envisaged that the emissions of odour will be adequately controlled with the mitigation measures outlined and it has been decided that an odour abatement system (biofilter) is not necessary.

Table 1.2 below presents dust monitoring results for KWD facility. The standard emission limit of 350 mg/m<sup>2</sup>/day is not exceeded at any of the four locations. Therefore the existing facility is not having a negative impact on the surrounding air quality.

**Table 1.2: Dust Deposition Results at Killarney Waste Disposal**

Dust Monitoring Point	August 2004 mg/m <sup>2</sup> /day
D1	172.7
D2	173.8
D3	116.6
D4	90
D5	227.7*
Emission Limit Value	350

\* Sample D5 contained excessive foliage and plant debris from overhanging trees.

Having regard for the draft BAT Guidance Note for the Waste sector: Transfer Activities (November 2004) the measures to control and reduce dust emissions at the facility include the following:

- Regular sweeping of the facility with the automatic sweeper will control the amount of dust generated.
- The surrounding trees will attenuate the dust generated from the proposed facility.
- A mobile water sprayer will be employed during dry weather conditions to reduce dust emissions.
- Plant equipment used on site will be regularly maintained to prevent excessive exhaust emissions of particulates and other pollutants
- The timber shredder will be housed on three sides to reduce dust being emitted into the atmosphere.
- Regular dust monitoring will indicate if the levels are exceeding the standard limits.

From the proposed facility emissions of dust will be generated from the processing and storage of C&D waste and the drying of organic waste within the MRF building and the processing and storage of timber outside. Dust will also be generated from traffic travelling to and from the facility. Dust emissions from the vortex dryer will be reduced by the air filter. Dust emissions associated with timber shredding will be minimised as it is proposed to enclose the timber shredder. It is likely that the increase in particulate emissions at the facility will only be minimal as most of the operations take place indoors. It is unlikely that the emission limit of 350 mg/m<sup>2</sup>/day will be exceeded and the annual monitoring required under the proposed waste licence will confirm this.

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**Give details of an odour impact assessment of the proposed project having regard to meteorological factors and quantify the impact in terms of odour units where possible. In addition provide details of the impact assessment method. Give details of any further mitigation measures identified for fugitive dust and odour emissions.**

Appendix B details the air quality risk assessment for the facility.

**Identify the noise sources and quantify noise emissions from the proposed development.**

**Give details of a noise impact assessment of the proposed development and quantify the impact. In addition provide details of the impact assessment method.**

Appendix A provides a further noise assessment prepared by Biospheric Engineering Ltd.

**Describe control measures for nuisances such as vermin, flies and litter.**

A litter control and vermin and pest control programme are in operation at the facility.

Killarney Waste Disposal Ltd. will ensure that all operations on site will be carried out in a manner such that litter does not result in significant impairment of, or significant interference with the environment beyond the site boundary. The following control measures are being implemented:

- All vehicles will be adequately secured to prevent littering.
- All loose litter accumulated within the facility and its environs, will be removed and appropriately disposed of on a daily basis.
- Any litter placed on or in vicinity of the facility will be removed immediately, and in any event by 10.00am of the next working day, when such litter is discovered. Such waste will be disposed of in an appropriate manner.

The vermin and pest control procedure outlines the measures in relation to inspections and controlling pests at the facility.

**Describe groundwater vulnerability of the site (vulnerability of the local area was given).**

The GSI have not yet published a vulnerability map for County Kerry. Therefore the vulnerability of the local area could vary from moderate to low (in areas where there are substantial subsoil deposits of low permeability) to high and extreme where overburden is of high permeability, thin or absent according to the GSI Vulnerability Mapping Guidelines as outlined in Table 2 of Appendix A of Volume III of the EIS. The subsoil of the site consists of boulder clay and there is no evidence of rock outcrops on the site.

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**Describe the local climatic and meteorological conditions in the area.**

The nearest meteorological station to Killarney Waste Disposal is Valentia Observatory. The 30 year averages for this meteorological station are contained in Appendix C.

**Give details of the local water supply to residences in the area (public/private well) and the location of such sources.**

All of the residences within 500m of the boundary of the facility are connected to the main public waste supply. Drawing No DG0001-02F02 provides the location of residences within 500m of the boundary of the facility.

**Give details of source of surface water contamination (as described in the aquatic ecology report) from the site.**

The Aughacurreen drain is seriously polluted upstream of Killarney Waste Disposal facility at Site B and C and moderately polluted upstream of KWD facility at Site A. At Site C visual and olfactory evidence of oil contamination was observed at this site. However the invertebrate community is indicative of serious organic contamination. The source of contamination is unknown at this location and it is very unlikely that the source of contamination originated at the KWD facility as Site C is upstream of the facility.

Elevated levels of ammonia and COD and a Q-value rating of Q1-2 indicating seriously polluted conditions are evident at Site D which is located downstream of the facility. The source of this contamination is unknown. Stormwater runoff from the site at the time of the waste licence application was being treated in an interceptor for oil and solids separation, the outlet of which was flowing to the Aughacurreen drain on site. The storm water lagoon/reed/percolation system has since been constructed and once completed, a significant improvement in surface water quality in the Aughacurreen drain is expected.

The Aughacurreen drain is classified as being of D Rating (moderate local value). This section of the Aughacurreen drain which flows through the site (Habitat Section 1) has a rating of "None" for salmonid habitat quality for all life stages from spawning to adult. This indicates that it is regarded as impossible that the stream could support salmonid fish.

The Glanooragh River is moderately polluted (Q3) immediately upstream and downstream of the confluence with the Aughacurreen drain. Agricultural pollution is evident. The biological assessment data gives no indication of a negative impact from the Aughacurreen drain in the months preceding the survey.

**Describe the interrelationship between the factors (human beings, fauna and flora, soil, waste, air, climatic factors and the landscape, material assets, architectural and archaeological heritage and cultural heritage) likely to be significantly affected by the proposed development.**

Specialist sub-consultants assessed the environmental factors of the development individually. Therefore, it is necessary that the interactions between these environmental factors be considered to ensure that potential interactive effects of the project can be identified.

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Table 5.3 illustrates the direct impacts of the project that may result in relevant interactions between receptors associated with the development. A receptor is defined as a factor of the natural or man made environment such as water, air or a plant that is potentially affected by an impact.

Potential interactions identified mainly relate to a reduction in residential quality. Therefore, human beings are the impacted receptor. However, as suitable mitigation measures will eliminate/reduce the possibility of potential effects, the above interactions will be avoided.

As the potential negative interactions between factors associated with the operation of the facility will be mitigated appropriately, the overall project will result in a net slight impact to the environment.

**Table 5.3: Summary of Potential Interactions Resulting from the Facility.**

RECEPTOR	POTENTIAL EFFECT	IMPACTED RECEPTOR	POTENTIAL IMPACT
<b>NATURAL ENVIRONMENT</b>			
<i>Flora and Fauna</i>	Loss of habitat/species	Human Beings	Reduced recreational amenity
<i>Water Quality</i>	Contamination of waters	Flora & Fauna	Loss of habitat <sup>1</sup>
		Human Beings	Reduced recreational amenity & residential quality
<i>Landscape</i>	Negative visual impact	Human Beings	Reduced recreational amenity & residential quality
<i>Archaeology/ Architectural heritage/ Cultural heritage</i>	Disturbance of archaeological finds	Human Beings	Impact on cultural heritage
<b>HUMAN BEINGS</b>			
<i>Air</i>	Increase in dust/odour emissions	Human Beings	Reduced recreational amenity & residential quality
		Flora & Fauna	Loss of species <sup>1</sup>
<i>Noise</i>	Increase in noise	Human Beings	Reduced recreational amenity & residential quality
		Flora & Fauna	Loss of species <sup>1</sup>
<i>Soil</i>	Contamination of soil	Flora & Fauna	Loss of species <sup>1</sup>

<sup>1</sup> In turn results in reduced recreational amenity due to the minimisation of natural environment i.e. human beings are secondary impacted receptors.

#### REFERENCES

EPA (2002); "Guidelines on the information to be contained in Environmental Impact Statements"; Environmental Protection Agency.

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**Identify the nearest designated conservation area (habitat) and assess the likely effect of the proposed development on the area.**

Figure 1 provides details on the location of Environmental Designated Areas in the vicinity of the Killarney Waste Disposal facility. Killarney National Park which is designated as a candidate Special Area Conservation (cSAC) and proposed Natural Heritage Area (pNHA). Killarney National Park, MacGuillycuddy Reeks and the Caragh River Catchment are designated as an Special Protection Area (SPA). These designated areas are located approximately 3km from the Killarney Waste Disposal facility therefore the facility is not impacting on any designated areas.

**Give details of the disposal of trade effluent and the impact of such emissions on the Killarney wastewater treatment plant and the receiving water. In addition provide details of the impact assessment method.**

EPA Landfill Site Design Manual for BOD concentrations for leachate has been referenced to assess the impact of this effluent on the WwTP and subsequently the receiving waters and the environment.

Killarney Wastewater Treatment Plant has been designed for a capacity of 42,000 Population Equivalent<sup>1</sup>, i.e. 9,450 cu.m/day and 2,520 Kg BOD/ day.

Current plant loading averages 8,666 cu.m per day with an average BOD of 182 mg/l<sup>1</sup> (i.e. 1,577 kg BOD/ day). This includes leachate loading from the current waste facility.

Performance compliance testing of the plant indicates that the plant is producing treated effluent well within the required standard. Annual averages of 5.7 mg/l BOD and 0.3 mg/l Total Phosphate have been recorded.

The additional leachate loading from the increased waste facility has been calculated as 11.23 cu.m/day. Using a maximum concentration of 68,000 mg/l BOD<sup>2</sup> a total maximum load of 763 Kg/ day would be anticipated (with an average daily load of 380 Kg/day).

Based on the above figures the plant has capacity to accept the additional flow and BOD loading. The current performance of the plant would further indicate that it has sufficient capacity to cope with any increased nutrient loading from the waste facility.

The effluent will be re-analysed when effluent is available following the commencement of processing at the facility and then the impact of the emission will be re-assessed.

<sup>1</sup> Kerry County Council – Killarney WwTP records

<sup>2</sup> EPA Landfill Manuals

**Describe proposals for the decommissioning of the site.**

The facility will be decommissioned by clearing all waste and residue and any contamination resulting from activities on site so the condition of the facility will not cause or be likely to cause environmental pollution. No restoration or aftercare will be required.

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**Describe energy efficiency considerations made in relation to the proposed development.**

The applicant, KWD is committed to using energy efficiently in relation to the carrying on of activities. Approximately 1020 units of electricity and 25,000 litres of fuel are currently used per annum at the facility. Electricity is used for lighting and heating in the offices. The site vehicles and the on site generator that runs the machinery require fuel usage. The fuel usage will increase with the upgrading of the operating processes.

**The non-technical summary has been revised to reflect the information supplied in this Article 13 compliance and it is contained in Appendix D.**

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## APPENDIX A

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Ms. Siobhan Aherne,  
RPS Consulting Engineers,  
Lirr Building,  
Mervue Industrial Estate,  
Galway

September 19<sup>th</sup> 2005.

**Re: Noise levels at KWD Recycling.**

Siobhan,

As per your correspondence we have examined the revised equipment schedule and carried out monitoring on site before shift startup, during normal operations (increased capacity and traffic), with timber shredding in progress in the open yard and with the temporary dryer compressors operating in the yard. Noise measurements were taken at two noise sensitive locations and on site. The results are included in the attached forms.

Measurements were taken of the additional equipment on site including the dryer and ballistic separator, both of which are located inside the building. Measurements were also taken of the noise levels in the yard and at the nearest noise sensitive locations under 4 sets of circumstances:

1. Prior to the start of shift (No activity)
2. During normal shift operation, i.e. trucks arriving on site, loading & unloading activity, equipment in shed operation as normal.
3. As 2 above with the temporary air compressors operating in the yard for the dryer.
4. As 2 above, compressors stopped, shredding timber in the open yard area.

The results of these measurements are outlined on the attached Table A – External Noise Levels. From the table it can be seen that all activities can be carried out without exceeding 55 dBA at the site boundary (same as noise sensitive location) with the exception of the shredding operation which results in a noise level of 56 dBA. The background noise level (L90) is increased significantly when shredding takes place i.e. an increase of over 20 dB with some tonal component. Mitigation measures will be required in order to remain within standard limits.

I spoke briefly with Sean Murphy regarding possible enclosure of the shredder and he informed me that he intends to purchase a new (quieter) shredder and create an enclosed area in the yard for its operation. This will certainly result in a sufficient reduction to remain within standard noise limits. I suggest that in the interim shredding is limited to 3 hours per day, carried out in mid morning when site traffic is light and a temporary noise barrier is created using bales of materials to reduce noise levels to the North of the site.

The temporary compressors are not a significant problem and the proposed enclosure for the production compressor will be adequate to mitigate the situation.

Based on the above the site should not have any difficulty in remaining within standard noise limits.

Yours sincerely,

---

Eugene McKeown

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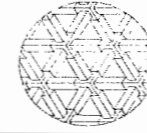
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<b>TABLE A – External Noise Levels</b>			
	<b>Sound Pressure Levels</b>		
	<b>L(A)<sub>eq</sub></b>	<b>L(A)<sub>10</sub></b>	<b>L(A)<sub>90</sub></b>
<b>NOISE SENSITIVE LOCATIONS</b>			
<b>Location 1: Murphys House to NE of site</b>			
No Activity	42	47	33
Normal Activity	46	47	37
Temporary Compressors	46	46	39
Shredding	56	58	53
<b>Location 2: House to SW of site</b>			
No Activity	43	48	35
Normal Activity	45	49	43
Temporary Compressors	49	50	47
Shredding	51	54	46









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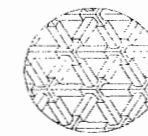
## frequency analysis

Client: KWD Recycling  
 Site: Aughnacurreen, Killarney, Co. Kerry  
 Description: Temporary Dryer Compressors @ 3m  
 Survey Date: 19th September 2005

Frequency Hz	<sup>1</sup> / <sub>3</sub> Octave		<sup>1</sup> / <sub>1</sub> Octave	
	dBA	dB lin	dBA	dB lin
25	24	68		
31.50	38	78	45	81
40	44	79		
50	55	85		
63	52	79	60	87
80	57	79		
100	66	86		
125	65	82	72	89
160	70	83		
200	69	80		
250	70	79	75	84
315	71	78		
400	72	77		
500	75	79	80	83
630	76	78		
800	79	80		
1000	79	79	84	84
1250	80	79		
1600	77	76		
2000	79	77	83	82
2500	79	78		
3150	77	76		
4000	76	75	81	80
5000	76	75		
6300	74	75		
8000	73	74	80	79
10000	76	74		
<b>Overall Sound Level</b>	<b>89</b>	<b>94</b>		

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Compressors on load



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## frequency analysis

Client:	KWD Recycling
Site:	Aughnacurreen, Killarney, Co. Kerry
Description:	Dryer @ 3m
Survey Date:	19th September 2005

Frequency Hz	<sup>1</sup> / <sub>3</sub> Octave		<sup>1</sup> / <sub>1</sub> Octave	
	dBA	dB lin	dBA	dB lin
25	20	65		
31.50	30	70	36	73
40	35	69		
50	45	75		
63	47	73	51	78
80	46	68		
100	55	74		
125	60	76	63	79
160	60	73		
200	61	72		
250	62	71	67	76
315	64	71		
400	65	69		
500	66	69	71	74
630	67	69		
800	66	67		
1000	66	66	71	71
1250	67	66		
1600	67	66		
2000	69	68	73	72
2500	68	67		
3150	71	69		
4000	69	68	74	73
5000	66	66		
6300	65	65		
8000	63	64	69	69
10000	66	63		
<b>Overall Sound Level</b>	<b>79</b>	<b>84</b>		

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**APPENDIX B**

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# DOCUMENT CONTROL SHEET

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Client	Killarney Waste Disposal Ltd					
Project Title	Killarney Waste Disposal Waste Licence Application					
Document Title	Air Quality Risk Assessment					
Document No.	MGE0031RP0012					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	2	-	-	-

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	M. Doherty	S. Aheme	W. Madden	West Pier	10/10/05

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## AIR QUALITY RISK ASSESSMENT

### Introduction

The air quality risk assessment for the proposed extension of Killarney Waste Disposal was undertaken to identify the primary air quality issues of concern and to quantify the risks. This document should be read in conjunction with the Air Quality Assessment contained in Appendix G of Volume III of the EIS.

### Hazard identification

The main potential air quality hazards associated with the development include:

- Odour from site operations
- Nuisance dust from fugitive and scheduled emissions from the vortex dryer emission point.

### Identification of consequences

The main potential consequences of concern affecting air quality are:

- Deterioration in local air quality and quality of life as a result of increased dust in the area.
- Deterioration in local air quality and quality of life as a result of unpleasant odours in the area.

### Probability of consequence

The prevailing wind in Ireland is from a quadrant centred on west-southwest. The site of the proposed development is located in the south, approximately 80km from the west and south coasts.

30-year averages from the nearest meteorological station which is located at the Valentia observatory are presented in the Table below. The site of the proposed development would have similar climate patterns to those determined from the Valentia station, due to the proximity of locations.

Parameter	30-year Average
Mean Temperature ( <sup>o</sup> C)	10.4
Mean Relative Humidity at 0900UTC (%)	83
Mean Daily Sunshine Duration (hours)	3.39
Mean Monthly Total Rainfall (mm)	1430
Mean Monthly Wind Speed (knots)	10.9

30-year Average Meteorological Data from Valentia Observatory (Annual Values from 1961-1990).

The relatively strong winds and frequent rain will aid dispersion in dry conditions and dampen dust in wet conditions. The topography of the site contributes to air dispersion. The site is located in a rural area, predominately of fields and hedgerows with scattered dwellings. As such there are few obstacles to deflect wind and hinder dispersion.

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The baseline air quality assessment indicates air quality in the area is currently good with no exceedences in EU limit values. The dust survey also indicated no exceedences of TA Luft Guidelines.

The combination of the meteorological and topographical conditions will contribute to good air dispersion in the area and reduces the likelihood of dust and odours remaining close to the source for long periods.

#### **Evaluation of the significance of the risk**

Provided that proper operating procedures and scheduled maintenance is carried out on the vortex dryer the significance of any air emissions is low following abatement from the air filter. The risk of dust and odour causing nuisance at residential receptors close to the site is considered low. The significance of any risk is greatly reduced once risk management measures outlined below are adhered to.

#### **Risk management**

Detailed dust and odour mitigation measures are presented in Appendix A1 of this document and are contained in the EIS document. Providing these mitigation measures are adhered to, the affect of dust and odour on nearby receptors will not be significant.

#### **Monitoring**

Ambient dust and scheduled emission point monitoring of the vortex dryer.

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## APPENDIX A1 PROPOSED DUST AND ODOUR MITIGATION MEASURES

### Dust Mitigation measures

- Site roads should be regularly cleaned and maintained as appropriate. Hard surface roads should be swept to remove mud and aggregate materials from their surface. Any un-surfaced roads should be restricted to essential site traffic only. Furthermore, any road that has the potential to give rise to fugitive dust should be regularly watered, as appropriate, during dry and/or windy conditions.
- Public roads outside the site shall be regularly inspected for cleanliness, and cleaned as necessary.
- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind.
- Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.
- All vehicles which present a risk of spillage of materials, while either delivering or removing materials, will be loaded in such a way as to prevent spillage on to the public road.
- All vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum.

### Odour Mitigation measures

- All organic and mixed municipal waste is processed indoors and this significantly reduces any odour emissions from the waste.
- All work surfaces and floors are cleaned and regularly maintained to a suitable standard to prevent the build up of anaerobic bacteria. All areas where there is a potential for the generation of odour (i.e. temporary storage areas, skips, bins, etc) are covered to reduce the potential for escape of odours.
- Residence time for waste, even non-odorous waste, will be kept to a minimum before transfer.

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## APPENDIX C

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CLIMATE

**30 Year Averages**

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**VALENTIA OBSERVATORY**

**monthly and annual mean and extreme values**

**1961-1990**

TEMPERATURE (degrees Celsius)	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	year
mean daily max.	9.3	9.3	10.5	12.2	14.3	16.4	17.9	18.0	16.6	14.3	11.4	10.1	13.4
mean daily min.	4.2	3.9	4.6	5.5	7.5	10.1	11.7	11.6	10.3	8.6	6.0	5.0	7.4
mean	6.8	6.6	7.6	8.9	10.9	13.3	14.8	14.8	13.5	11.5	8.7	7.6	10.4
absolute max.	13.6	15.1	20.3	24.0	26.9	25.7	29.7	28.4	25.9	22.5	19.8	15.3	29.7
absolute min.	-5.9	-7.3	-5.1	-1.6	0.5	2.8	5.3	3.3	2.8	-1.4	-4.0	-5.3	-7.3
mean no. of days with air frost	3.4	3.3	2.2	0.6	0.0	0.0	0.0	0.0	0.0	0.1	1.3	3.0	13.9
mean no. of days with ground frost	7.5	7.1	6.1	4.3	1.1	0.1	0.0	0.0	0.2	1.1	4.5	6.8	38.7

**RELATIVE HUMIDITY (%)**

mean at 0900UTC	84	83	83	79	78	81	84	85	85	86	84	85	83
mean at 1500UTC	80	77	75	73	73	77	79	79	78	80	79	81	78

**SUNSHINE (hours)**

mean daily duration	1.41	2.16	3.05	5.00	5.81	5.12	4.53	4.50	3.61	2.53	1.72	1.17	3.39
greatest daily duration	7.5	9.0	11.1	13.5	15.1	15.8	15.6	14.4	12.1	9.6	8.1	6.4	15.8
mean no. of days with no sun	11	7	6	3	2	4	4	4	4	7	9	13	75

**RAINFALL (mm)**

mean monthly total	166.6	123.0	122.9	76.2	89.6	79.2	74.0	110.8	123.8	156.4	148.3	159.2	1430.1
greatest daily total	45.6	46.2	37.1	52.7	37.5	58.3	32.4	85.6	55.6	64.6	86.6	62.0	86.6
mean no. of days with >= 0.2mm	23	19	21	17	18	17	17	19	19	22	22	24	239
mean no. of days with >= 1.0mm	20	16	16	12	14	13	12	15	15	19	18	19	187
mean no. of days with >= 5.0mm	11	8	8	5	7	5	5	7	8	11	10	10	95

**WIND (knots)**

mean monthly speed	13.1	12.6	12.1	10.1	10.3	9.1	8.5	8.9	10.0	11.4	11.8	12.6	10.9
max. gust	87	79	67	63	61	58	53	60	88	75	70	82	88
max. mean 10-minute speed	54	49	40	38	39	40	31	36	58	49	45	47	58
mean no. of days with gales	2.5	2.0	1.3	0.3	0.4	0.0	0.0	0.1	0.5	0.8	1.5	1.8	11.2



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WEATHER (mean no. of days with...)	1.5	1.7	1.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	5.6
<i>snow or sleet</i>	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8
<i>snow lying at 0900UTC</i>	5.1	4.2	4.6	2.5	1.1	0.1	0.0	0.1	0.3	0.9	2.9	3.6	25.5		
<i>hail</i>	1.2	0.8	0.6	0.2	0.3	0.3	0.6	0.4	0.5	0.7	0.8	0.7	7.1		
<i>thunder</i>	0.4	0.4	0.2	0.9	0.9	1.2	1.5	1.2	0.7	0.6	0.4	0.4	8.9		
<i>fog</i>															

Choose a 30 year average report from any station by clicking on one of the links below:

- 1 Belmullet
- 2 Birr
- 3 Casement
- 4 Claremorris
- 5 Clones
- 6 Cork Airport
- 7 Dublin Airport
- 8 Kilkenny
- 9 Malin Head
- 10 Mullingar
- 11 Roches Point
- 12 Rosslare
- 13 Shannon Airport
- 14 Valentia

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## APPENDIX D

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## DOCUMENT CONTROL SHEET

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Client	Killarney Waste Disposal					
Project Title	Killarney Waste Disposal Waste Licence Application					
Document Title	Environmental Impact Statement – Vol. I, Non-Technical Summary					
Document No.	MGE0031RP0007GAL					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	19	1	1	-

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	S. Aherne	W. Madden	W. Madden	Galway	31/01/05
F02	Final	S. Aherne	W. Madden	W. Madden	Galway	10/10/05

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# ENVIRONMENTAL IMPACT STATEMENT

for

**Killarney Waste Disposal Ltd**

**January 2005**

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**VOLUME I    NON-TECHNICAL SUMMARY**

**VOLUME II    MAIN REPORT**

**VOLUME III    TECHNICAL APPENDICES**



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# Volume I

## Non-Technical Summary

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**Figure 2.1: Existing MRF**

**Figure 6.1: Station 3: Local Road/Access Road junction at Aughacurreen**

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# 1 INTRODUCTION

## 1.1 BACKGROUND

Killarney Waste Disposal (KWD) currently operate a Materials Recovery Facility (MRF) in Aughacurreen, Killarney, Co. Kerry under a Waste Permit from Kerry County Council allowing an annual waste intake for recovery of 16,500 tonnes. The site covers an area of 2.2 hectares in total. Figure 1.1 shows the location of the facility.

Killarney Waste Disposal propose to increase the waste intake at the facility to 40,000 tonnes per annum and provide an extension to the facility to incorporate a new MRF building. Therefore an Environmental Impact Statement (EIS) is required together with the Waste Licence Application for the proposed increase in tonnage and facility extension. It is in this context that this EIS has been prepared by RPS-MCOS Ltd. for Killarney Waste Disposal.

## 1.2 WHAT IS AN EIS?

Environmental Impact Assessment (EIA) is a process for predicting the effects on the environment caused by a project development. An Environmental Impact Statement (EIS) is the document produced as a result of that process. Its purpose is to identify the environmental effects of the development and examine how these impacts can be avoided or reduced during the design process.

## 1.3 WHAT IS A WASTE LICENCE?

The existing facility is operated by KWD under a Waste Permit from Kerry County Council. A Waste Licence application to include for the proposed increase in tonnage will be submitted to the EPA in accordance with Section 42 of the Waste Management Act, 1996 as amended and the Waste Management (Licensing) Regulations, 2004. In accordance with these Regulations an EIS is required for submission to the EPA in part fulfilment of the Waste Licence Application.

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## 2 THE NEED FOR THE PROJECT

The National Waste Database 2001 Report, published by the EPA in July 2003 describes the waste management situation in Ireland as being one in which the quantities of waste are increasing and the continuing high dependence on landfill and a deficit in infrastructure required to manage waste in Ireland. Recycling rates have increased, the waste industry is more regulated, waste statistics are becoming more accurate and the provision of waste infrastructure has improved. The generation of household waste increase by 20.3% between 1998 and 2001. Commercial waste generation increased by 53.3% largely due to the economic growth that has occurred in Ireland over the last few years.

The Waste Management Plan for the Limerick/Clare/Kerry Region (2000) recommended an integrated approach to waste management involving new recycling initiatives, biological and thermal treatment of wastes and finally landfill of residual waste. This Plan identified the total municipal waste arising in the Region by 2014 will be approximately 381,710 tonnes per annum. Future expansions for Material Recovery Facilities are necessary to achieve the recycling target of 37.1% which has been set for municipal waste in the Limerick/Clare/Kerry Region. The Waste Management Plan for the Limerick/Clare/Kerry Region is currently under review.

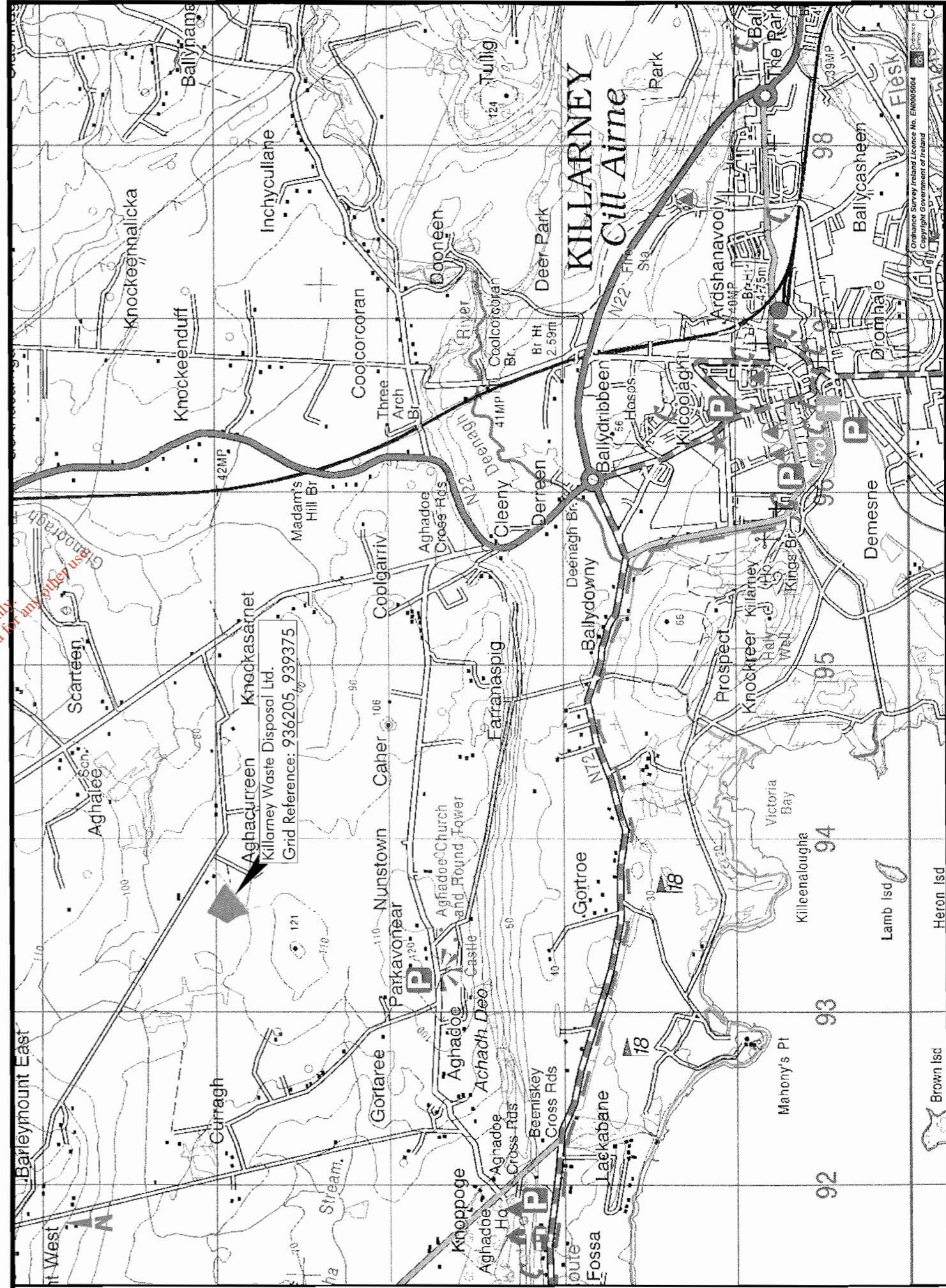
With waste quantities increasing the Limerick/Clare/Kerry Region waste will have to be sent directly to landfill due to the lack of additional waste sorting and recycling infrastructure in the Region which would mean that the recycling targets would not be achieved and a negative impact on the environment would result.

Figure 2.1: Existing MRF



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Site Location Map

Fig. 1.1



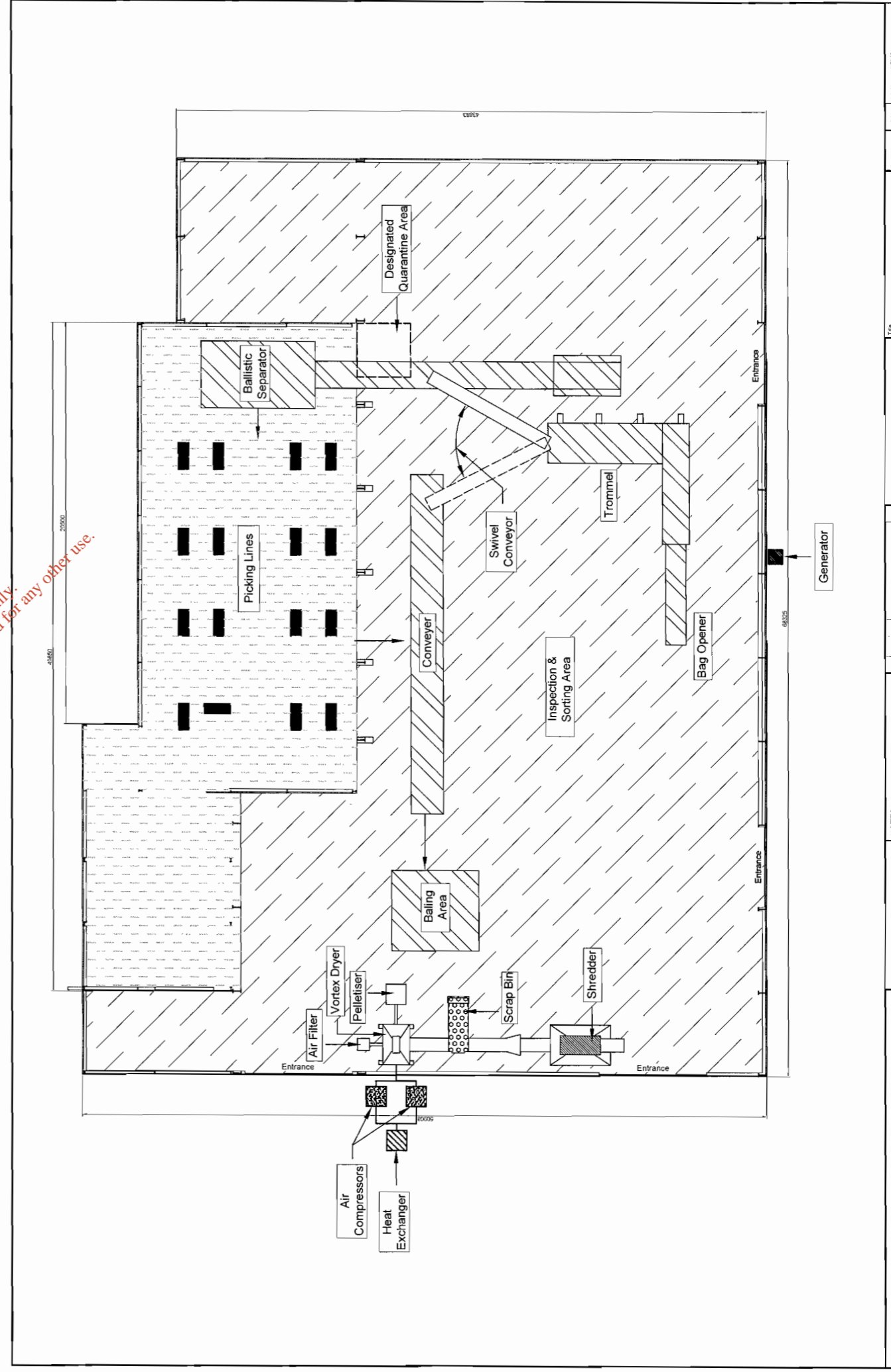
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### 3 STRUCTURE OF THE REPORT

This EIA has followed the steps outlined in the Environmental Protection Agency's '*Guidelines on the Information to be contained in Environmental Impact Statements*' and '*Advice Notes on Current Practice in the preparation of Environmental Impact Statements*' and the EIA 1999 Regulations (S.I. No. 93 of 1999).

Although the EIA Regulations do not contain any details about the exact form of an EIS, the information to be contained in an EIS is specified in the Second Schedule of the EIA Regulations (S.I. No. 93 of 1999).

This Environmental Impact Statement (EIS) follows the general format outlined below:

- Volume 1 – Non-Technical Summary
- Volume 2 – Main Report
- Volume 3 – Technical Appendices

The Non-Technical Summary (Volume 1) outlines the main findings of the EIS and emphasises the most significant of these. A simple matrix is also included which summarises the magnitude of the impacts.

The Main Report (Volume 2) follows the format outlined below:

Chapter 1 is an introduction to the project giving details of the project, the need for the project, alternatives examined including the 'Do Nothing' Scenario and legislative requirements.

Chapter 2 describes the proposed extension to the facility and outlines the existing site layout, infrastructure and operation of the facility.

Chapter 3 addresses the existing environmental situation with an outline of the baseline studies conducted by specialist sub-consultants with the environmental aspects of the project falling under the category of either Human Beings or Natural Environment as follows:

#### Human Beings

- Community Effects & Material Assets
- Traffic
- Air Quality
- Noise & Vibrations

#### Natural Environment

- Geology, Hydrogeology
- Water Quality
- Terrestrial Flora & Fauna
- Landscape
- Archaeology & Cultural Heritage

Chapter 4 addresses the potential impacts of the development and highlights the mitigation measures that may be used to minimise negative impacts of the development.

Chapter 5 describes the interactions of effects.

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Chapter 6 provides the conclusions and recommendations of this EIS. Each environmental discipline is addressed and the major impacts highlighted.

Volume 3 – Technical Appendices, contain the individual environmental reports prepared by a number of specialist sub-consultants. As explained above the main issues arising from these reports have been described in Chapters 3 to 5 of this Report (Volume 2). Each sub-consultant and their particular discipline is identified below:

- |  |                                   |
|--|-----------------------------------|
| • Appendix A RPS-MCOS Ltd                  | Geology and Hydrogeology          |
| • Appendix B RPS-MCOS Ltd                  | Archaeology and Cultural Heritage |
| • Appendix C RPS-MCOS Ltd                  | Landscape and Visual Assessment   |
| • Appendix D Biospheric Engineering Ltd    | Noise                             |
| • Appendix E Roger Goodwillie & Associates | Terrestrial Ecology               |
| • Appendix F Conservation Services Ltd.    | Aquatic Ecology                   |
| • Appendix G RPS-MCOS Ltd                  | Air Quality                       |
| • Appendix H RPS-MCOS Ltd                  | Traffic                           |

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## 4 PROPOSED EXTENSION

Killarney Waste Disposal propose to apply for an increase in the allowable waste intake of 40,000 tonnes per annum as shown in Table 4.1 and to extend the current processing building.

**Table 4.1: Proposed Types/Quantities of Waste to be Accepted at KWD**

Waste Type	Maximum Tonnes per Annum
Mixed municipal waste	15,500
Organic waste (kitchen and canteen waste)	6,000
Dry recyclable wastes	6,500
Construction and Demolition waste	12,000
<b>Total Waste</b>	<b>40,000</b>

Drawing No. 02-034-J4-MCOS2F03 Proposed Site Layout Plan and Drawing No. DG0004-01F03 provides details on a layout for the new processing building on site. It should be noted that the proposed layout is indicative and may change depending on machinery sizes and operational techniques.

The new building has been designed with a maximum number of access points to facilitate delivery and loading of waste to and from the building. There are 4 no. entrances to the new building. It is proposed to build an on-site access road around the perimeter of this building. The extension will be provided on the existing site which is 2.2 hectares in size. The existing Material Recovery Facility will be extended by 2,503 sq.m to a total size of 3,223 sq.m and will not exceed the existing structure's height (ridgeline is 9.45m above foundation ground level).

It is proposed to use a bag opener and trommel and a ballistic separator to cater for the increase in waste intake. It is also proposed to use a vortex dryer for the organic waste. A heat exchanger and two compressors are located outside the building and are connected to the dryer inside. An air filter traps any dust emissions which are re-circulated back into the drying process before emitting the filtered air to the atmosphere. All waste is inspected on arrival in the inspection and sorting area. If any consignment is non-compliant the customer will be notified and it will be returned to the customer. In cases where the waste can not be returned to the customer it will be temporarily stored in the quarantine area. Timber processing, metal and timber storage will continue to take place outdoors.

The processing of mixed municipal waste produces an effluent. The new processing building will have effluent holding tank in the centre of the building. This precast concrete holding tank will be 6,920 litres or 1,500 gallons in capacity and will be lined with a 2.5mm thick HDPE liner. A bunding tank will be constructed around the tank which will have a capacity of 3,500 gallons. The effluent will be sent to Killarney WWTP for treatment.

A stormwater treatment system is proposed on site. An interceptor for oil and solids separation is currently in operation on site and it is proposed to direct stormwater runoff from the interceptor to a lagoon and then to a reed bed which will discharge the treated stormwater to surface water to a percolation ditch. Drawing No. 02-034-J4-MCOS2F03 Proposed Site Layout Plan provides details on the layout of the stormwater treatment system.

Currently the domestic effluent treatment system on site consists of a septic tank. A puraflo treatment unit and raised percolation area is required to be installed as per original planning permission Reg No. 337/03. It is proposed to install this puraflo system and percolation area immediately.

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## 5 CONSULTATION PROCESS

In accordance with Section 18(1) of the Waste Management Licensing Regulations, 2004 (S.I. No. 395 of 1997) the EPA are required to submit copies of the EIS to a number of certain public authorities and bodies including the following:

- An Taisce,
- Kerry County Council,
- Minister of the Environment, Heritage and Local Government,
- Minister for Communications, Marine and Natural Resources,
- The Central Fisheries Board,
- Southern Health Board,
- National Authority for Occupational Safety and Health,
- Fáilte Ireland,
- Teagasc.

In this regard, any persons wishing to make a written submission regarding the Waste Licence Application should write to the following address within a period of one month following the making available of documents for inspection:

**The Environmental Protection Agency  
P.O. Box 3000,  
Johnstown Castle Estate,  
Co. Wexford**

In accordance with Section 15 of the Waste Management (Licensing) Regulations, 2004 the Agency '*... shall not give notice of a proposed decision under section 42(2) of the Act before the expiry of a period of one month.....*'.

The Waste Management (Licensing) Regulations 2004 require that a notice with respect to the EIS be published in local/national newspapers and also that a notice be erected on site. The EIS and Waste Licence Application will also be available for inspection at the EPA.

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## 6 ENVIRONMENTAL ASSESSMENT

### HUMAN BEINGS

#### 6.1 COMMUNITY EFFECTS

The existing facility is situated approximately 4.5 km northwest of Killarney in County Kerry. The site is 2.2 hectares in size and is located within a rural context. There are approximately 20 no. residences within 500m from the boundary of the facility (Drawing No. DG0001-02). Most of residences are located on a ribbon development on the nearby road from Knockasarnet to Aghalee. The primary landuse in the vicinity of the facility is agriculture. There are no schools, medical centres or churches within 500m of the proposed development. Most of the traffic to the existing facility is along the Local Road between Ballyhar and the N22 junction at Cleeny.

The value of houses in the vicinity are unlikely to be impacted upon as a result of the proposed development. There will not be an adverse impact on landuse as the proposed development will be included at the existing facility within the current area of 2.2 hectares.

The proposed development will have a positive impact on Killarney Town and the greater Region in that a greater recycling service will be provided and more waste will be diverted from landfill therefore reducing the negative impact on the environment.

The potential impacts associated with dust, odour, noise, traffic, groundwater and surface water are described in detail in this EIS and should not cause a significant impact if all the mitigation measures proposed are implemented.

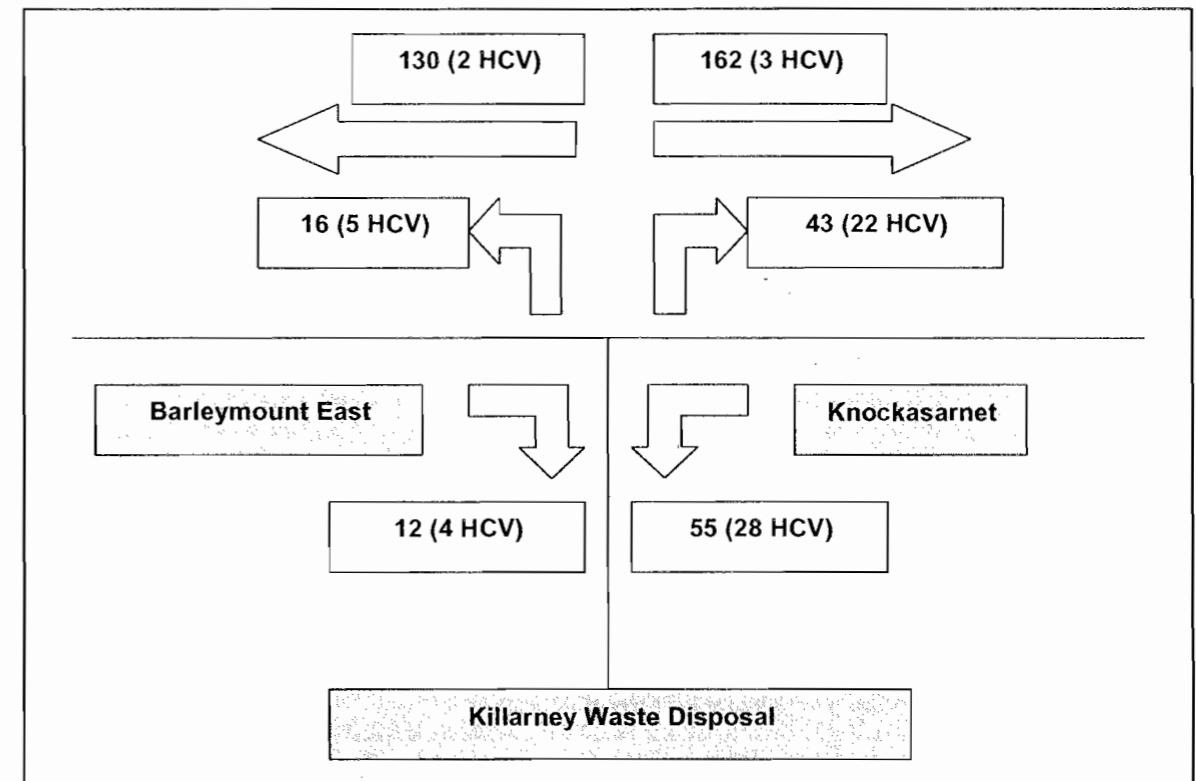
Other potential impacts from the facility include such nuisances such as pests and litter. Control measures are currently in place at the existing facility and will be incorporated to include the proposed development once in operation.

#### 6.2 TRAFFIC

Most of the traffic to the existing facility is along the Local Road between Ballyhar and the N22 junction at Cleeny. A traffic survey was carried out by RPS-MCOS Ltd. on Thursday 1<sup>st</sup> July 2004 which recorded that 126 vehicular movements on that day at the facility, 47% (59) of which were Heavy Commercial Vehicles (HCVs), over the twelve hour period (Figure 3.1). The 67 normal vehicle movements per day consist of staff vehicles, general public vehicles coming to the facility to make payments for bin charges and vehicle movements of people living in the 3 no. houses which use the same access road as the facility. The peak hour for HCVs alone was 11.00am to 12.00pm with 10 HCV movements.

At present, 82% of normal vehicle traffic enters the landfill from the Knockasarnet side with the remaining 18% entering from the Barleymount side. These proportions remain approximately constant when HCVs only are considered.

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**Figure 6.1: Station 3: Local Road/Access Road junction at Aghacurreen**

It is assumed that the number of normal vehicle movements will increase by 5% per annum to 71 movements per day. Based on the number of HCV movements recorded in the survey, it is predicted that, in the worst case scenario, the proposed increase to 40,000 tpa will result in 143 HCV movements per day. However the actual future HCV movement daily figure is expected to be considerably less than this as a result of the KWD's current waste collection system operating more efficiently with an increase in the numbers of customers and collection routes which can be achieved at an increased maximum annual tonnage of 40,000 tpa.

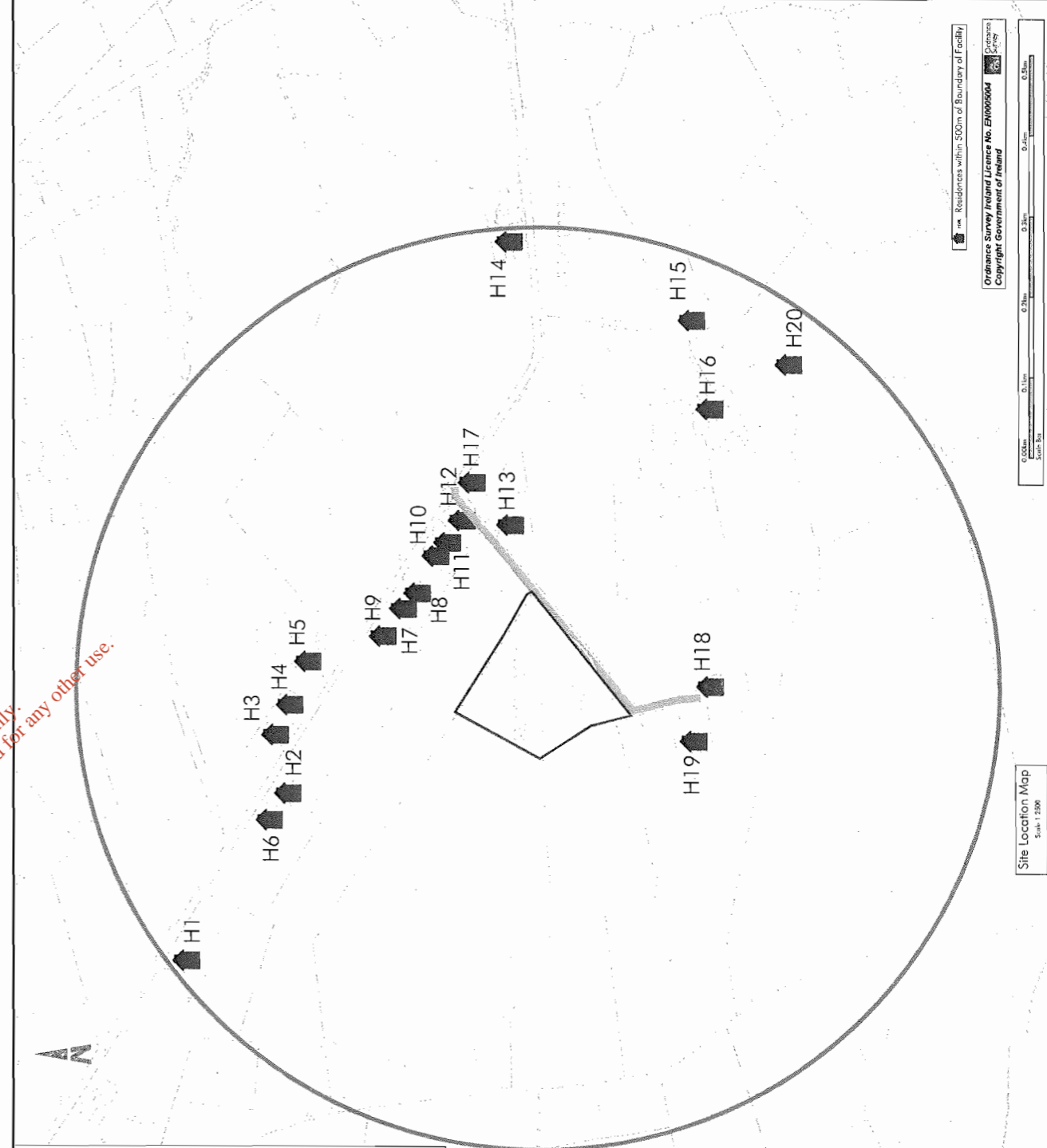
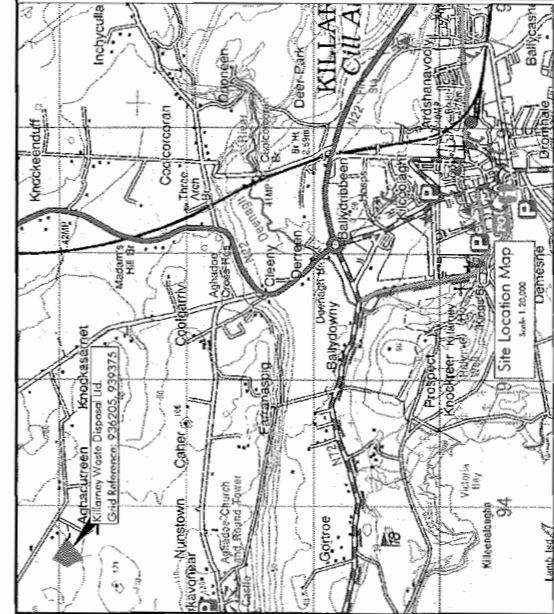
It will be necessary to improve the local road where possible between the junction at Knockasarnet and the Aghacurreen junction with the access road to the facility to enable it to carry the increased number of HCV's.

Condition No. 14 of the current Planning Permission for the development granted by Kerry County Council on 23<sup>rd</sup> November 2004 requires that prior to the commencement of development, the developer shall pay a contribution of €37,575 to 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 and Development Act, 2000 towards the cost of implementation of the following schedule of works:-

**Proposed Infrastructure and Facilities**

1. Overlay of junction accessing the development from Local Road L7037 (Junction 3).
2. Widening and strengthening of junction of Local Road L7037 with Local Road L2019 (Junction 2) to allow for adequate HGV turning circles.
3. Overlay of junction of Local Road L7037 with Local Road 2019 (Junction 2).
4. Overlay of segments of Local Road L7037 (between Junctions 2 and 3) to facilitate additional HGV traffic.

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Residences within 500m of Boundary of Facility  
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Site Location Map  
 Scale: 1:2500

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WMA Final Issue Final Issue Amendment / Issue No. Date	Proximity to Residences within 500m of Boundary of Facility	Job No. MERR01 Checked by S.A. File No. MERR0100001 Approved by W.M. Eng. No. DG0001-02 Scale: 1:2500 @ A1 Date: Jun 04

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In addition some minor mitigation measures are proposed which include hedge cutting, provision of a lay-by and warning sign at two junctions.

### 6.3 AIR QUALITY

Construction activities may generate quantities of dust, particularly in drier weather conditions. Construction vehicles transporting materials to and from the site could generate dust and cause environmental nuisance.

It is proposed to use a vortex dryer at the facility for organic waste and this dryer has a direct emission to the atmosphere. Fugitive dust will be produced from activities on site and traffic movements. Odours can be a potential nuisance from facilities that store waste and arise mainly from the uncontrolled anaerobic biodegradation of waste. Road traffic generated by the facility will also have an impact on air quality due to exhaust emissions.

The following mitigation measures are produced during the construction phase:

- Site roads will be regularly cleaned and maintained as appropriate;
- Site roads should be watered during dry and/or windy conditions;
- Site stockpiling of materials shall be designed and laid out to minimise exposure to wind.

The emission of pollutants from road traffic can be controlled by either reducing the number of road users or by controlling the flow of traffic. The free flow of traffic in the vicinity of the proposed extension is essential in order to minimise the generation of traffic related pollutants. The proposed remediation measures will assist with the free-flow of traffic in the area.

Having regard for the draft BAT Guidance Note for the Waste sector: Transfer Activities (November 2004) the measures to control and reduce dust emissions at the facility include the following:

- Regular sweeping of the facility with the automatic sweeper will control the amount of dust generated.
- The surrounding trees will attenuate the dust generated from the proposed facility.
- A mobile water sprayer will be employed during dry weather conditions to reduce dust emissions.
- Plant equipment used on site will be regularly maintained to prevent excessive exhaust emissions of particulates and other pollutants
- The timber shredder will be housed on three sides to reduce dust being emitted into the atmosphere.
- Regular dust monitoring will indicate if the levels are exceeding the standard limits.

From the proposed facility emissions of dust will be generated from the processing and storage of C&D waste and the drying of organic waste within the MRF building and the processing and storage of timber outside. Dust emissions from the vortex dryer will be reduced by the air filter. Dust emissions associated with timber shredding will be minimised as it is proposed to enclose the timber shredder. It is likely that the increase in particulate emissions at the facility will only be minimal as most of the operations take place indoors. It is unlikely that the emission limit of 350 mg/m<sup>2</sup>/day will be exceeded and the annual monitoring required under the proposed waste licence will confirm this.

To reduce odour emissions the following mitigation measures are proposed:

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- The site layout should be maximised so as to keep any outdoor operation as far as possible from the nearest sensitive receptors;
- All work surfaces and floors should be cleaned regularly to maintain a suitable standard to prevent the build up of anaerobic bacteria;
- Residence time for waste should be kept to a minimum.
- All areas where there is a potential for the generation of odour should be covered.
- In the event that an odour nuisance is being caused by the facility masking agents or counteractants can be used.

The effects of construction on air quality will not be significant following the implementation of the mitigation measures. The creation of an enclosed shed and a hard surface road in place of the current surface has the potential to reduce local dust levels. As long as the traffic remains free flowing, the predicted increase in traffic volumes should not have an adverse effect on local air quality. The result of the baseline air quality survey show that air quality in the vicinity of Killarney Waste Disposal Ltd. is typical rural air quality and can be categorised as Zone D in relation to the EU Air Framework Directive and EPA Air Quality Zones.

#### 6.4 NOISE & VIBRATIONS

Biospheric Engineering Ltd undertook a study to assess the potential impact of the noise aspects from the Killarney Waste Disposal facility. A full copy of this report is attached in Volume III, Appendix D of this EIS.

Noise monitoring was carried out at three locations (one at the facility and two at the nearest noise sensitive locations). Drawing No DG0001-05 provides details on the locations of these monitoring points.

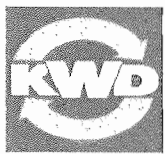
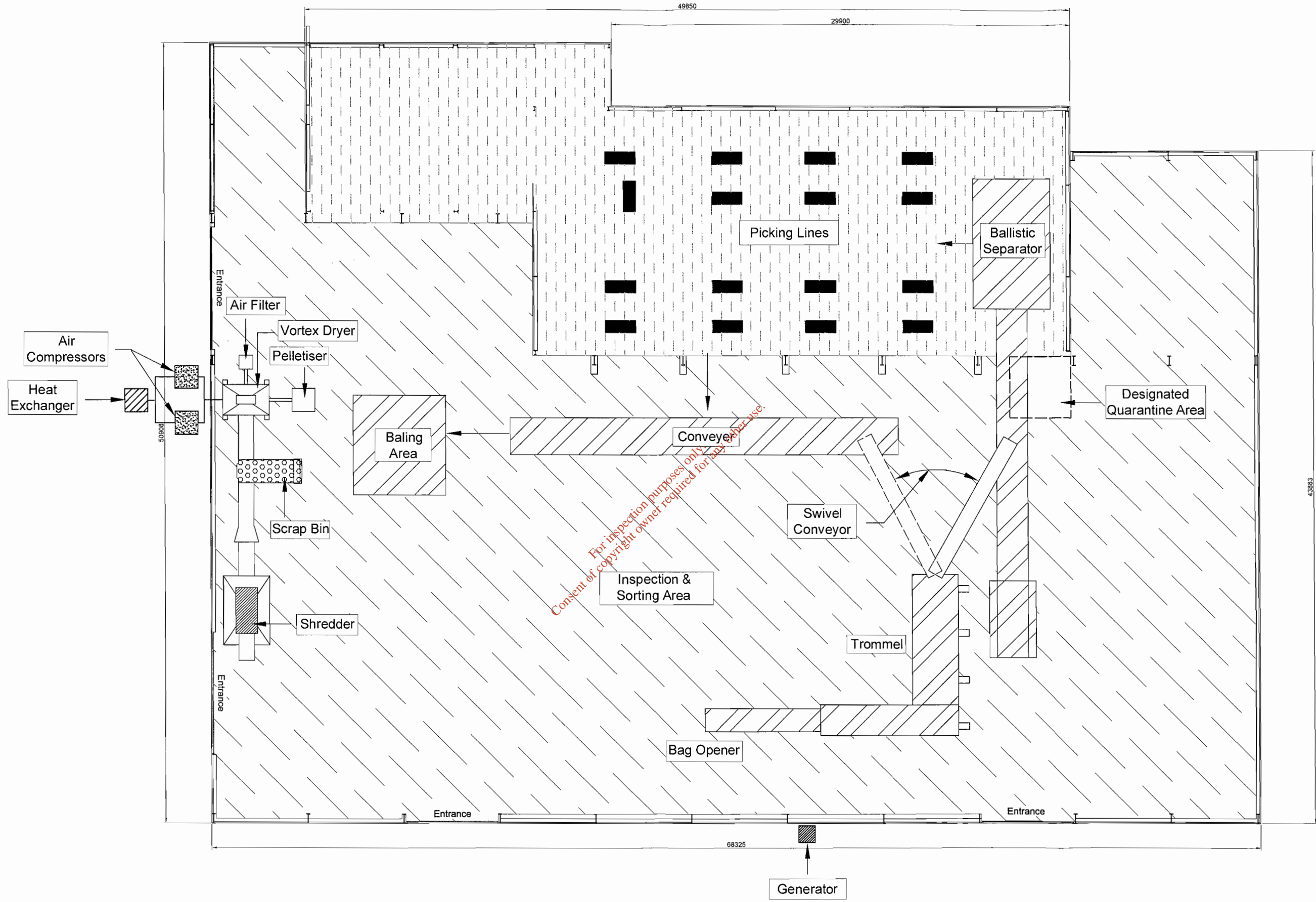
The noise levels at the noise sensitive location are determined by the road traffic noise on local road rather than any noise arising from the licensed activities and so the licensed activity complies with EPA guidance for licensed activities during the day time.

Noise levels are below the NRA guideline values for traffic noise and the projected increase in traffic levels as a result of the proposed development will not significantly increase traffic noise levels.

The two main noise sources that need to be assessed are the timber shredder and the air compressors outside of the MRF building. From the two assessments the noise monitoring results show that all activities on site at the site boundary and the noise sensitive locations do not exceed the EPA guidance limit of 55 dBA with the exception of the shredding operation outdoors which results in a noise level of 56 dBA. The background noise level (L90) is increased significantly when shredding takes place i.e. an increase of over 20 dBA with some tonal component. Therefore mitigation measures are required to keep within the required emission limit. It is proposed to create an enclosure for the shredder outside and this will certainly result in a sufficient reduction to remain within the emission limit. In the interim shredding will be limited to 3 hours per day carried out in mid morning when the site traffic is light and a temporary noise barrier is created using bales of materials to reduce noise levels North of the site.

The air compressors are not a significant problem and the proposed enclosure for the production compressor will be adequate to mitigate the situation. The generator has been relocated as shown in Drawing No. DG0004-01F03 thus reducing its noise impact on sensitive receptors.

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No.	Date	By	App.	Amendment / Issue
F03	19/09/05	W.M.		Final Issue
F02	17/06/05	S.A.		Final Issue
F01	01/02/05	W.M.		Final Issue

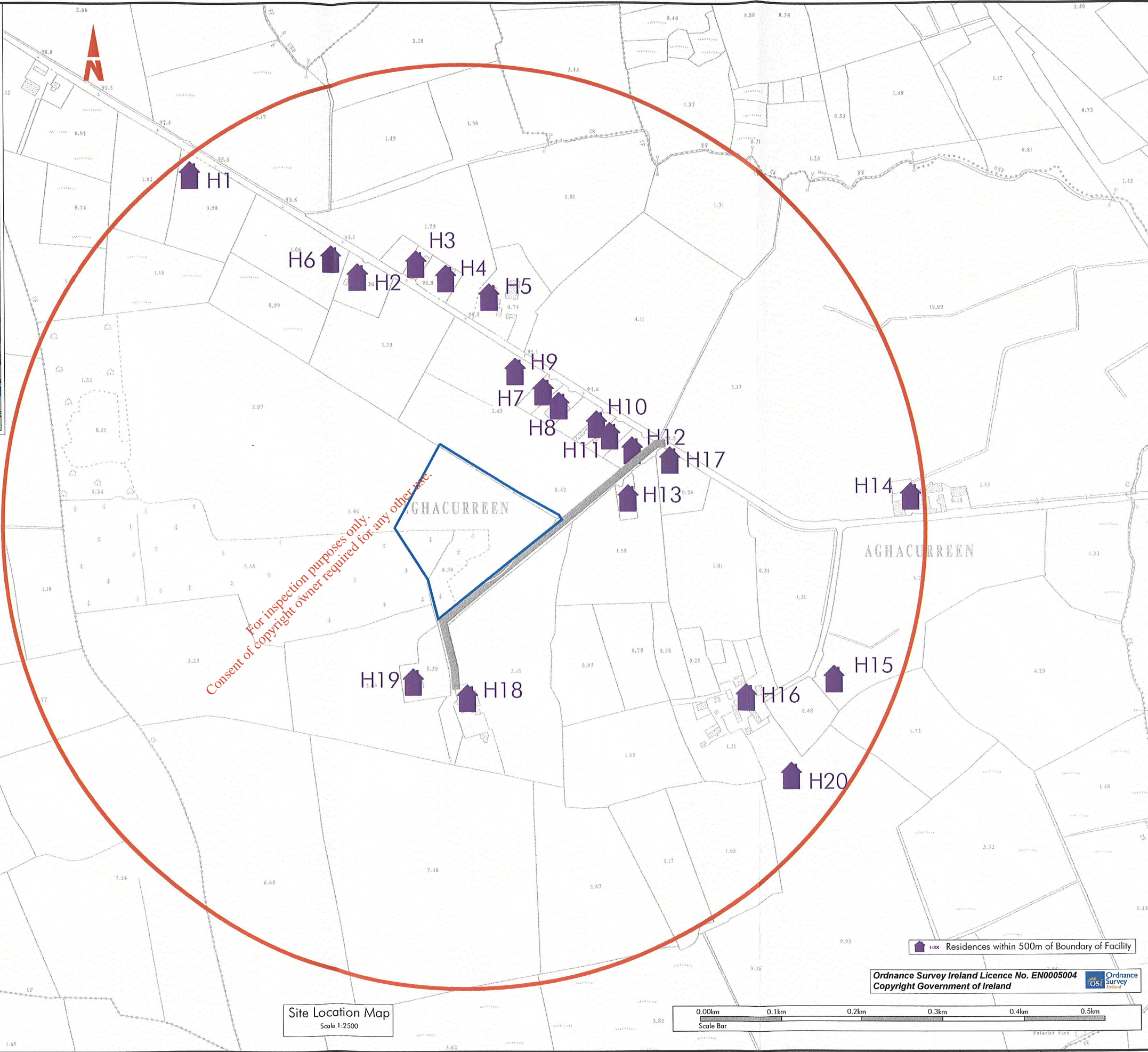
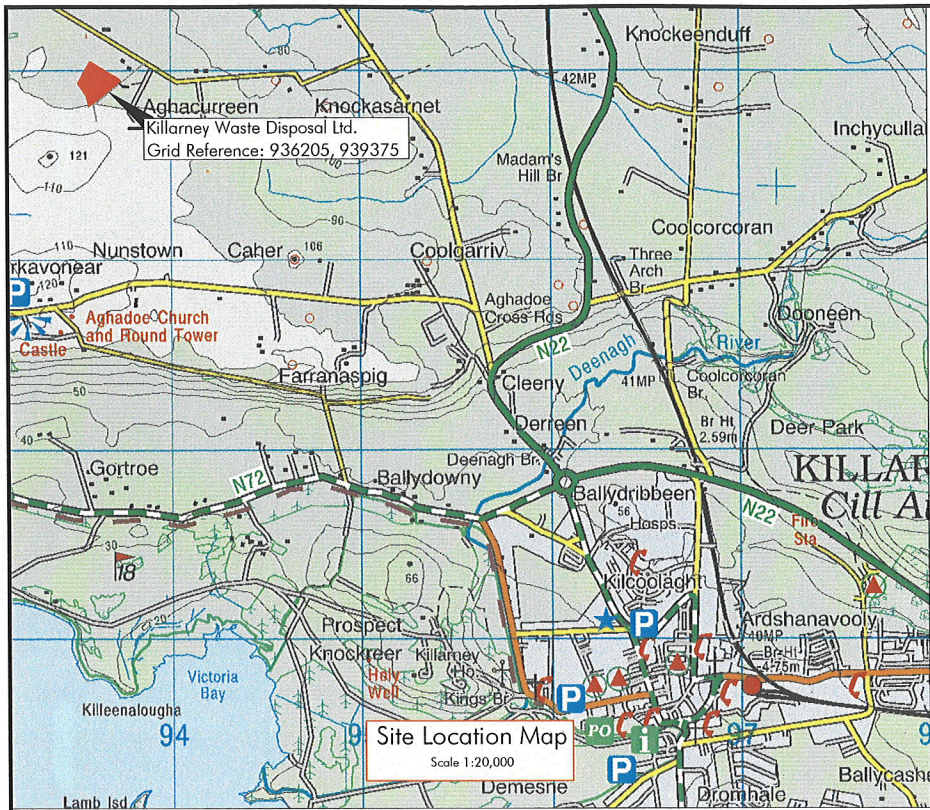
Killarney Waste Disposal LTD.  
**Waste Licence Application**

Title:  
**Proposed Layout for MRF Building**

Drawn by:	C.N.	Job No:	MGE0031
Checked by:	S.A.	File No:	MGE0031DG0004
Approved by:	W.M.	Dr. No:	Rev:
Scale:	Not to Scale	DG0004-01 F03	
Date:	Sept. 04		



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No.	Date	By	Description	App.
F02	07/05/05	CH/SA	Final Issue	W.M.
F01	17/09/04	CH/SA	Final Issue	W.M.
			Amendment / Issue	App.

Killarney Waste Disposal LTD.  
**Waste Licence Application**

Title:  
**Proximity to Residences within 500m of Boundary of Facility**

Drawn by:	C.N.	Job No:	MGE0031
Checked by:	S.A.	File No:	MGE0031DG0001
Approved by:	W.M.	Drg. No:	DG0001-02
Scale:	1:2500 @ A1	Rev:	F02
Date:	Jun.'04		

