

**APPLICATION TO REVIEW**  
**WASTE LICENCE REG NO. W0116-01**  
**WATERFORD UTILITIES SERVICES (WASTE DISPOSAL) LTD**  
**SIX CROSS ROADS, CARRIGANARD**  
**BUTLERSTOWN, CO. WATERFORD**

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**Prepared For: -**

Waterford Utilities Services (Waste Disposal) Ltd.,  
Six Cross Roads,  
Carriganard,  
Butlerstown,  
Co. Waterford.

**Prepared By: -**

O' Callaghan Moran & Associates,  
Granary House,  
Rutland Street,  
Cork.

**22<sup>nd</sup> February 2007**

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## INTRODUCTION

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Waterford Utility Services (Waste Disposal) Ltd (WUS) is applying to the Environmental Protection Agency (Agency) for a review of the Waste Licence (W0116-01) for its Materials Recovery and Transfer Station at Six Cross Roads, Carriganard, Butlerstown, County Waterford. The objectives of the review are: -

- To amend the licensed activities specified in Schedule A of the current licence to include Class 12 of the Third Schedule – Waste Disposal Activities of the Waste Management Acts 1996 to 2003, and to change the description of those activities.
- To amend the total and individual limits set for annual waste inputs to allow an increase of the total amount 15,000 tonnes, specified in Schedule H, to 70,000 tonnes and to remove the restrictions on the quantities of the individual wastes provided that the total of 70,000 tonnes is not exceeded in any one calendar year. It is not proposed to change the waste types accepted at the facility.
- To change the current hours of waste acceptance (08:00 and 17:00 Monday to Friday inclusive and between 08:00 and 12:00 on Saturday) to 06:00 - 23.00 seven days per week.
- To change Condition 5.3 to allow public access to a proposed on-site civic amenity facility.

The format of the application is based on the requirements of Parts II and III of the Waste Management (Licensing) Regulations 2004 (Regulations) and, in particular, Articles 5, 6, 7, 9, 12 and 13 of the Regulations.

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**1. ARTICLE 5, 6, 7 & 9**

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A copy of the notice published in a newspaper circulating in the area; a copy of the site notice; and the written notice submitted to the planning authority are included overleaf.

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Public Notice

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF WASTE LICENCE REG. NO. W0116-01**

Waterford Utility Services (Waste Disposal) Ltd is applying to the Environmental Protection Agency for a review of Waste Licence Reg. No. W0116-01 in respect of its operations in the townland of Carriganard, which is located at National Grid References: E2585 N1091.

The aims of the review are to increase the overall annual waste inputs from 15,000 tonnes to 70,000, change the hours of waste acceptance from between 08:00 and 17:00 Monday to Friday inclusive and between 08:00 and 12:00 on Saturday to 06.30 to 23.00 Monday to Sunday; to allow public access to a proposed on-site civic amenity facility and allow an additional Schedule 3 waste activity. It is not proposed to change the types of waste accepted at the facility.

The relevant waste disposal and waste recovery activities, as per the Third and Fourth Schedules of the Waste Management Acts 1996 to 2003, and the Waste Management (Licensing) Regulations 2004, (S.I. No. 395 of 2004) to which this application relates are:

**Third Schedule – Waste Disposal Activities**

Other Activities:

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

12 Repackaging prior to submission to any activity referred to in the preceding paragraph of this Schedule'.

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 – Waste Recovery Activities**

Principal Activity:

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

Other Activities:

3: 'Recycling or reclamation of metals and metal compounds'.

4: 'Recycling or reclamation of other inorganic materials'.

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'.

A copy of the application for a review of the waste licence 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 Agency at Johnstown Castle, County Wexford.

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# SITE NOTICE

## APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF WASTE LICENCE REG. NO. W0116-01

Waterford Utility Services (Waste Disposal) Ltd is applying to the Environmental Protection Agency for a review of Waste Licence Reg. No. W0116-01 in respect of its operations in the townland of Carriganard, which is located at National Grid References: E2585 N1091. The aims of the review are to increase the overall annual waste inputs from 15,000 tonnes to 70,000; change the current hours of waste acceptance (08:00 and 17:00 Monday to Friday inclusive and 08:00 and 12:00 on Saturday) to 06:30 to 23:00 Monday to Sunday; to allow public access to a proposed on-site civic amenity facility and allow a Schedule 3 Class 12 waste disposal activity. It is not proposed to change the types of waste accepted at the facility.

The relevant waste disposal and waste recovery activities, as per the Third and Fourth Schedules of the Waste Management Acts 1996 to 2003, and the Waste Management (Licensing) Regulations 2004, (S.I. No. 395 of 2004) to which this application relates are: -

### **Third Schedule – Waste Disposal Activities**

#### *Other Activities:*

- 11: 'Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule'.
- 12: Repackaging prior to submission to any activity referred to in the preceding paragraph of this Schedule".
- 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 – Waste Recovery Activities**

#### *Principal Activity:*

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

#### *Other Activities:*

- 3: 'Recycling or reclamation of metals and metal compounds'.
- 4: 'Recycling or reclamation of other inorganic materials'.
- 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'.

A copy of the application for the review of the waste licence 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 Agency at Johnstown Castle, County Wexford.

  
**Signature**

22/02/07  
**Date**

Planning Department,  
Waterford County Council,  
Civic Offices,  
Dungarvan,  
Co. Waterford.

22<sup>nd</sup> February 2007

RE: Review of Waste Licence Reg. No. W0116-01

Dear Sir/Madam,

We wish to notify you, on behalf of our client Waterford Utility Services (Waste Disposal) Ltd, of our intention to make an application to the Environmental Protection Agency for the Review of the above referenced Waste Licence for its Materials Recovery Facility at Six Cross Roads, in the townland of Carriganard, County Waterford, which is located at National Grid References E2585 N1094.

The relevant waste disposal and waste recovery activities, as per the Third and Fourth Schedules of the Waste Management Acts 1996 to 2003, and the Waste Management (Licensing ) Regulations 2004, (S.I. No. 395 of 2004) to which this application relates are: -

**Third Schedule – Waste Disposal Activities**

*Other Activities:*

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

Cont'd...



#### **Fourth Schedule – Waste Recovery Activities**

*Principal Activity:*

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

*Other Activities:*

- 3: ‘Recycling or reclamation of metals and metal compounds’.
- 4: ‘Recycling or reclamation of other inorganic materials’.
- 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’.

A copy of the application for a review of the waste licence 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 Agency at Johnstown Castle, County Wexford.

Yours sincerely,

  
Jim O' Callaghan

0604818/JOC/PS

c.c. Mr. Malcolm Dowling, Greenstar Ltd.,  
Mr. Denis Mulally, Waterford Utility Services (Waste Disposal) Ltd.,



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## 2. ARTICLE 12 (1)

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The following is provided in compliance with Article 12(1) of the Waste Management (Licensing) Regulations, 2004.

### Article 12 (1) (a)

#### Applicant Details

Waterford Utility Services (Waste Disposal) Ltd.,  
Six Cross Roads,  
Carriganard,  
Butlerstown,  
Co. Waterford.

Telephone No: 051-373915  
Fax No. 051-371614

A Certificate of Incorporation is included in Appendix 1.

The Directors of the company are: -

Mr. Martin Morrissey

Mr. Michael Murphy

Mr. Geoff Bailey

Secretary: -

Mr. Eamon Bolger

#### Name and Address for Correspondence

Mr. Malcolm Dowling,  
Greenstar Ltd.,  
Floor 3, Burton Court,  
Burton Hall Road,  
Sandyford,  
Dublin 18.

Telephone No: 01-2063788  
Fax No. 01-2063781

### **Article 12 (1)(b)**

The relevant planning authority is Waterford County Council.

### **Article 12 (1)(c)**

There is no nearby municipal sewer and at present there is no discharge of wastewater from the facility to a sewer. The wastewater is tankered off-site for disposal at a wastewater treatment plant operated by Atlas Environmental Ltd, now trading as ENVA, Clonminam Industrial Estate, Portlaoise, County Laois, Licence Reg. No. W0184-01. The sanitary authority is Waterford County Council.

### **Article 12 (1)(d)**

The facility is located in the townland of Carriganard at National Grid Reference: E2585 N1091. The location of the facility is shown on Figure 2.1.

### **Article 12 (1)(e)**

The facility is a non hazardous waste materials recovery and the transfer operation. The site encompasses approximately 3,870 m<sup>2</sup>. The entire site, including the floors of the transfer buildings and the open yard areas, are paved with concrete. There are three interconnected main buildings - Main Transfer Building (860 m<sup>2</sup>) which includes a loading ramp, quarantine area, MSW, C&D and Industrial inspection and processing bays; Vehicle Maintenance and banded area (325 m<sup>2</sup>); and a Dry Recyclables baling and store area (285 m<sup>2</sup>). Site offices (portakabin type) are located at the western boundary near the site entrance. There is a weighbridge and a vehicle wash in the western area of the site. The site layout is shown on Drawing No. 0604818-01.

Mixed and source separated Household, Commercial and Industrial (C&I) and Construction and Demolition (C&D) wastes are processed on-site to recover materials that are suitable for recycling/recovery and to minimise the quantity of treated waste disposed to residual landfill. The facility is licensed to accept a maximum of 15,000 tonnes of waste annually. In 2005 the facility accepted and processed approximately 26,000 tonnes, as reported in the 2005 Annual Environmental Report (AER), a copy of which is included in Appendix 2. It is proposed to accept and process a maximum of 70,000 tonnes of waste annually.



O' Callaghan Moran & Associates.  
 Granary House, Rutland Street,  
 Cork Ireland.  
 Tel. (021) 4321521 Fax. (021) 4321522  
 email : ocm@indigo.ie

CLIENT



TITLE

Site Location Map

Details

O.S. Licence Agreement  
 Number AR 0038702

Ordnance Survey Ireland.  
 Government of Ireland.

FIG. No

2.1

Scale

NTS

Rev.

A

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## **Article 12 (1)(f)**

The relevant activities as per the Third and Fourth Schedules of the Waste Management Acts 1996 - 2003 will be as follows: -

### **Third Schedule – Waste Disposal Activities**

#### Class 11

*“Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule”.*

Non recoverable household and commercial/industrial wastes are mixed prior to consignment to off-site licensed landfills.

#### Class 12

*“Repackaging prior to submission to any activity referred to in the preceding paragraph of this Schedule”.*

Non recoverable household, commercial and industrial waste are compacted and baled prior to consignment to off-site licensed landfills.

#### 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”.*

Non recoverable wastes are stored on-site prior to consignment to off-site licensed landfills.

### **Fourth Schedule – Waste Recovery Activities**

#### Class 2

*“Recycling or reclamation of organic substances which are not used as solvents, (including composting and other biological processes)”.*

Plastics and cardboard/paper collected separately and recovered from the incoming household, C&I wastes are consigned to off-site recycling facilities. Timber recovered from the incoming C&D waste is consigned to off-site recycling/recovery facilities. This is the principal activity at the facility.

#### Class 3

*“Recycling or reclamation of metals and metal compounds”.*

Metals, which are recovered from the incoming waste, and aluminium cans delivered to the facility separately, are stored on-site pending removal to off-site recycling facilities.

#### Class 4

*“Recycling or reclamation of other inorganic materials”.*

Inorganic materials comprising inerts recovered from the incoming C&D waste and glass delivered separately are recovered from the incoming waste and stored pending removal off-site for recycling and/or use in land reclamation projects.

#### 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”.*

Wastes are stored prior to consignment to off-site permitted/licensed recycling and reclamation facilities.

#### **Article 12 (1)(g)**

The existing Waste Licence allows WUS to accept 15,000 tonnes of waste annually, comprising 9,500 tonnes of Municipal (Household and Commercial) Waste, 4,000 tonnes of C&D Waste and 1,500 tonnes of other non-hazardous solid waste (Industrial). The wastes are delivered mainly in trucks and skips, with the occasional compactor and rear-end loader. The wastes are stored inside the Main Transfer Building, the Baled Waste Store and in the open yard. The waste recovery and transfer operations are carried out in the Main Transfer Building. C&D waste is stored in the Main Transfer Building. Baled plastic waste, aluminium cans and metals removed from the incoming wastes are stored in the open yard.

All of the wastes accepted at the facility are currently processed and stored on-site pending transfer off-site either for recovery, or disposal at appropriately licensed/permitted facilities. With the exception of occasional batteries and gas canisters inadvertently mixed with the wastes delivered in skips, hazardous and liquid wastes are not accepted at the site.

It is proposed to increase the overall amount of waste accepted at the facility, but it is not proposed to alter the types of waste from that specified in Schedule H of the current licence. WUS is seeking approval to amend the maximum quantities of the different categories of waste that can be accepted, provided that the total quantity of the waste is not exceeded.

The proposed amendments to Schedule H are presented below, including the proposed increases to the total quantity and removal of limits on individual categories of wastes. The relevant European Waste Catalogue Codes (EWC) for the wastes are presented in Section 2 of the 2005 AER (Appendix 2). Given the mixed nature of the majority of the waste received at the facility it is not possible, at this time, to provide accurate predictions of the quantities of waste broken down into individual EWC codes. However, the EWC codes and quantities of the individual wastes will be presented in future AERs.

**Table H 1 Annual Quantities of Waste.**

<b>WASTE TYPE</b>	<b>MAXIMUM (TONNES PER ANNUM) <sup>(Note 1)</sup></b>
Municipal	30,000
Construction & Demolition Waste	20,000
Non-hazardous Industrial Solid Waste	20,000
<b>TOTAL</b>	<b>70,000</b>

**Note 1:** The quantities of the different categories referred to in this table may be amended with the agreement of the Agency, provided that the total quantity of waste specified is not exceeded.

**Article 12 (1)(h)**

Oils (diesel, engine, hydraulic) are stored internally in a bunded area in a dedicated room in the Main Transfer Building. The facility obtains water from the municipal water supply system provided by Waterford City Council and electricity from the Electricity Supply Board.

The increase in waste inputs will result in an increase in fuel oil and energy usage. The actual increases will be reported to the Agency in future AERs.

**Article 12 (1)(i)**

The proposed increases in the waste volumes will not result in any changes to the current plant, methods, processes and operating procedures. The existing plant have the capacity to accommodate the proposed increases in waste inputs. The processes are described in detail in the AER in Appendix 2, and the acceptance and handling procedures are described in the Environmental Management Plan 2006 in Appendix 3.

It is proposed to allow members of the public access to the facility to deliver household non-hazardous waste to a designated civic amenity area. The location and layout of a civic amenity area will be submitted to the Agency for agreement before this amenity area is opened to the public. It is expected that the general public will drop off approximately 1000 tonnes per annum of municipal waste at the civic amenity area.

The wastes are processed within the Main Transfer Building, where the recyclable materials (e.g. glass, metal, cardboard, wood, plastic, paper) are removed and the residual waste is then sent to landfill.

*Municipal, Commercial and Industrial Waste*

WUS collects both mixed and segregated municipal and commercial waste throughout the southeast region (County Kilkenny, County Waterford and Waterford City) under Waste Collection Permit No. WCP/KK/046/02. Third party waste collectors also deliver commercial waste, rich in recyclables (paper, cardboard and plastic).

Municipal waste will also be dropped off at the civic amenity area by members of the general public. Recyclables are segregated from the incoming mixed waste and the remaining non-recyclable or residual material is transferred to licensed landfills.

### *Construction and Demolition Waste*

Waste loads include mixed C&D and soils and stones delivered in skips of varying sizes. The waste loads are inspected in accordance with the facility's waste acceptance procedures to ensure that only suitable materials are accepted. Recyclable materials are extracted for reuse and non-recyclable materials are transferred to approved permitted facilities or licensed landfill.

### *Recyclables*

Paper and cardboard, and plastics are collected from off-site civic amenity centres and from kerbside recycling bin collections. All unspoilt material is either baled, or loaded into bulk ejector trailers and transferred to appropriate approved licensed or permitted recycling facilities.

### *Waste Acceptance and Operational Hours*

The facility currently accepts waste and operates between 08:00 and 17:00 Monday to Friday inclusive and between 08:00 and 12:00 on Saturday. An aim of this review is to change these hours to 06:00 to 23:00 Monday to Sunday. The grounds for the proposed change are described in Section 12(3)a. It is not expected that the facility will be operated continuously during all this time, but flexibility is required in order to meet customer demands for early morning and late evening collections.

### *Plant & Equipment*

The plant and equipment currently in use at that facility includes the following: -

Equipment used at Waterford Utility Services Ltd. No.	Type	Model	Operational Capacity	Standby Capacity
1	Baler	Persona	15 tonnes per hour	
1	Paper Shredder		0.5 tonnes/hour	
	Trucks	1 Hook Lifts 4 Skip trucks 1 Refuse truck 1 Curtainsider truck		1 Spare 1 Spare 1 Spare
1	Forklift	Linde 3 tonne	3 tonnes	
1	Handler/ Grab	Caterpillar 210C	25 tonnes / hour	
1	Loading Shovel	J.C.B 310	50 tonnes/hour	
1	Weighbridge	Precia Molen	50 tonnes	

On average 1,300 tonnes of materials will be accepted per week. Assuming a twelve hour operational day seven days per week gives an 84 hour working week. The baler alone has the capacity to process approximately 1,000 tonnes per week, even allowing for 20% down time for maintenance etc. The loading shovel, grab, forklift and shredder all have more than sufficient capacity to handle the increased volumes.

#### **Article 12 (1)(j)**

Compliance with Paragraphs (a) to (g) of Section 40 (4) of the Waste Management Acts 1996 2003.

#### *Section 40 (4) (a)*

Details of the emissions from the proposed extension are presented in Section 12(1)k. The emissions will not result in the contravention of any relevant standard or emission limit prescribed under enactment.

#### *Section 40 (4) (b)*

The facility operations, when carried out in accordance with the licence conditions, will not cause environmental pollution.

#### *Section 40 (4) (c)*

The site activities and proposed amendments to the current licence conditions are based on best management practice and take into consideration the Draft BAT Guidance Note for the Waste Sector: Waste Transfer Activities published by the EPA.

#### *Section 40 (4) (d)*

A certified copy of the Certificate of Incorporation of WUS is included in Appendix 1 of this application.

It is not proposed to amend the current management structure at the facility. Facility personnel with responsibility for the management of the waste activities satisfy the requirements of Condition 2.1 of the current licence.

In November 2003 WUS was prosecuted on seven charges for breaches of the licence conditions. The charges included the off-site disposal of wastes at facilities not approved by the Agency (4 counts), failure to submit a decommissioning plan, failure to provide a proposal for financial provision and failure to maintain written records of the waste recovered or disposed of at the facility.



WUS is a wholly owned subsidiary of Greenstar Ltd. The relevant section of the profit and loss account for Greenstar for the year ending 2004 and 2005, which are the most recent available is included in Appendix 1.

Greenstar has in place insurance cover to the sum of €6,350,000 for any one environmental occurrence. There is also a €2,000,000 accrual on the balance sheet for Greenstar Recycling Holdings Ltd. for last year. This fund is also available to cover any environmental damage caused at the WUS facility.

*Section 40 (4) (f)*

Energy will be used efficiently in the carrying on of the activity.

*Section 40 (4) (g)*

Noise from the activity will comply with and will not result in the contravention of any regulations under Section 106 of the Act of 1992.

**Article 12(1)(k)**

Particulars of the source location, nature, composition, quantity, level and rate of emissions arising from the activity and the periods during which such emissions are made are presented below.

Actual and potential emissions from facility operations include noise, dust, odour, and surface water run-off. The current Waste Licence W0116-01 was issued in May 2000. The licence requires WUS to carry out monitoring to quantify and assess the impacts associated with emissions from the facility. The details of the emissions and an assessment of the affects, based on the monitoring results, are presented below. It is not proposed to change the existing monitoring locations which are shown on Figure 1 and Figure 2.

**Noise**

On-site sources of noise include the following: -

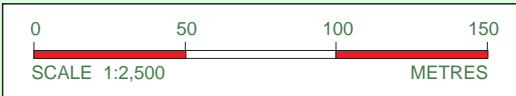
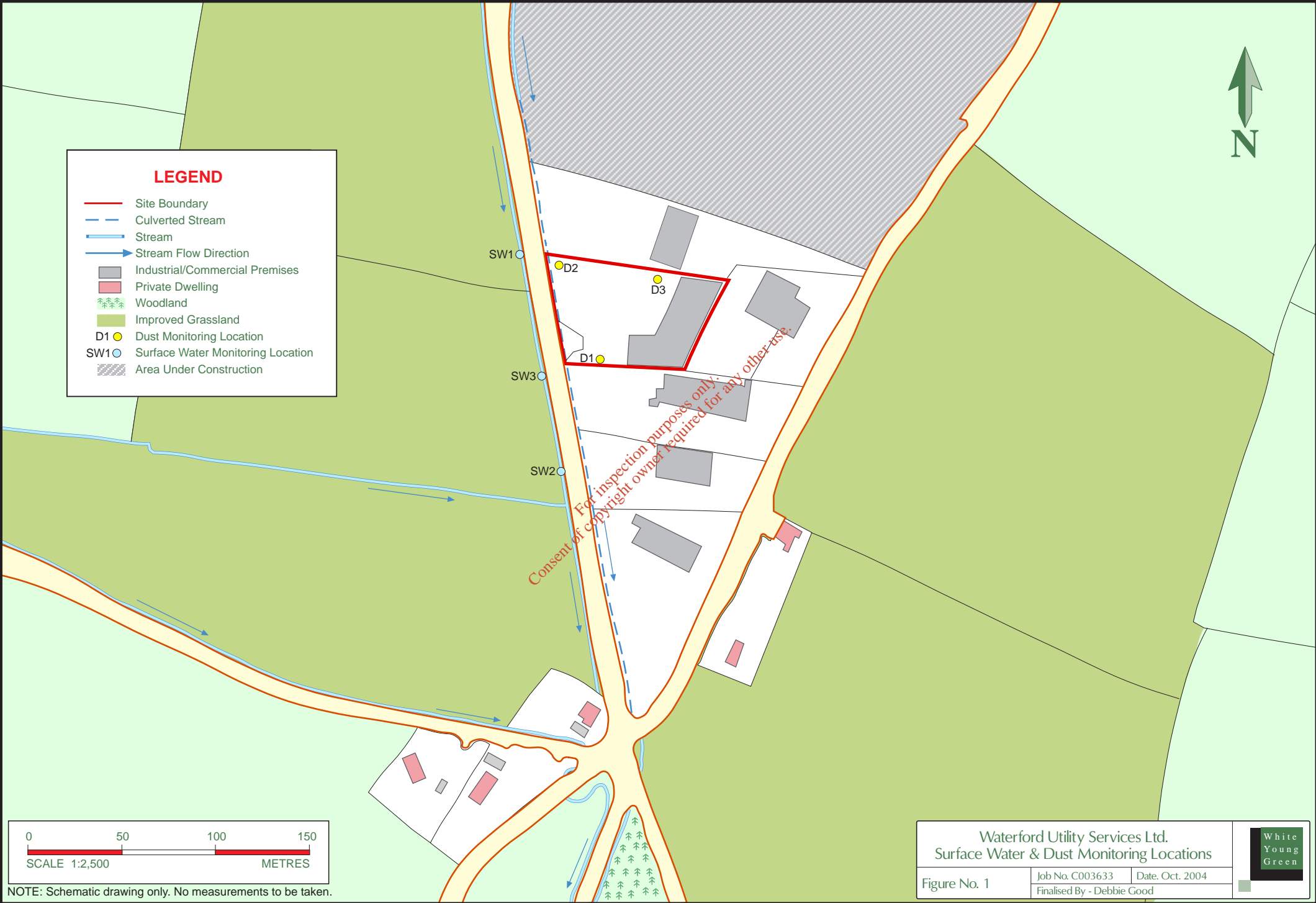
- Vehicle movements into and out of the facility,
- Trailer and skip lorries unloading,
- Baler.

Noise surveys were carried out in 2005 and 2006 to assess the impacts associated with emissions from the facility. The surveys included measurements at the site perimeter and at off-site noise sensitive locations (NSL). The monitoring locations are shown on Figure 2 and the findings are summarised in the Tables below.



**LEGEND**

- Site Boundary
- - - Culverted Stream
- Stream
- Stream Flow Direction
- Industrial/Commercial Premises
- Private Dwelling
- Woodland
- Improved Grassland
- D1 ● Dust Monitoring Location
- SW1 ○ Surface Water Monitoring Location
- Area Under Construction



NOTE: Schematic drawing only. No measurements to be taken.

Waterford Utility Services Ltd.  
Surface Water & Dust Monitoring Locations

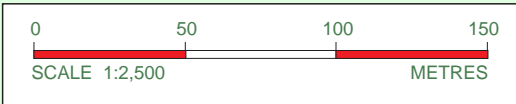
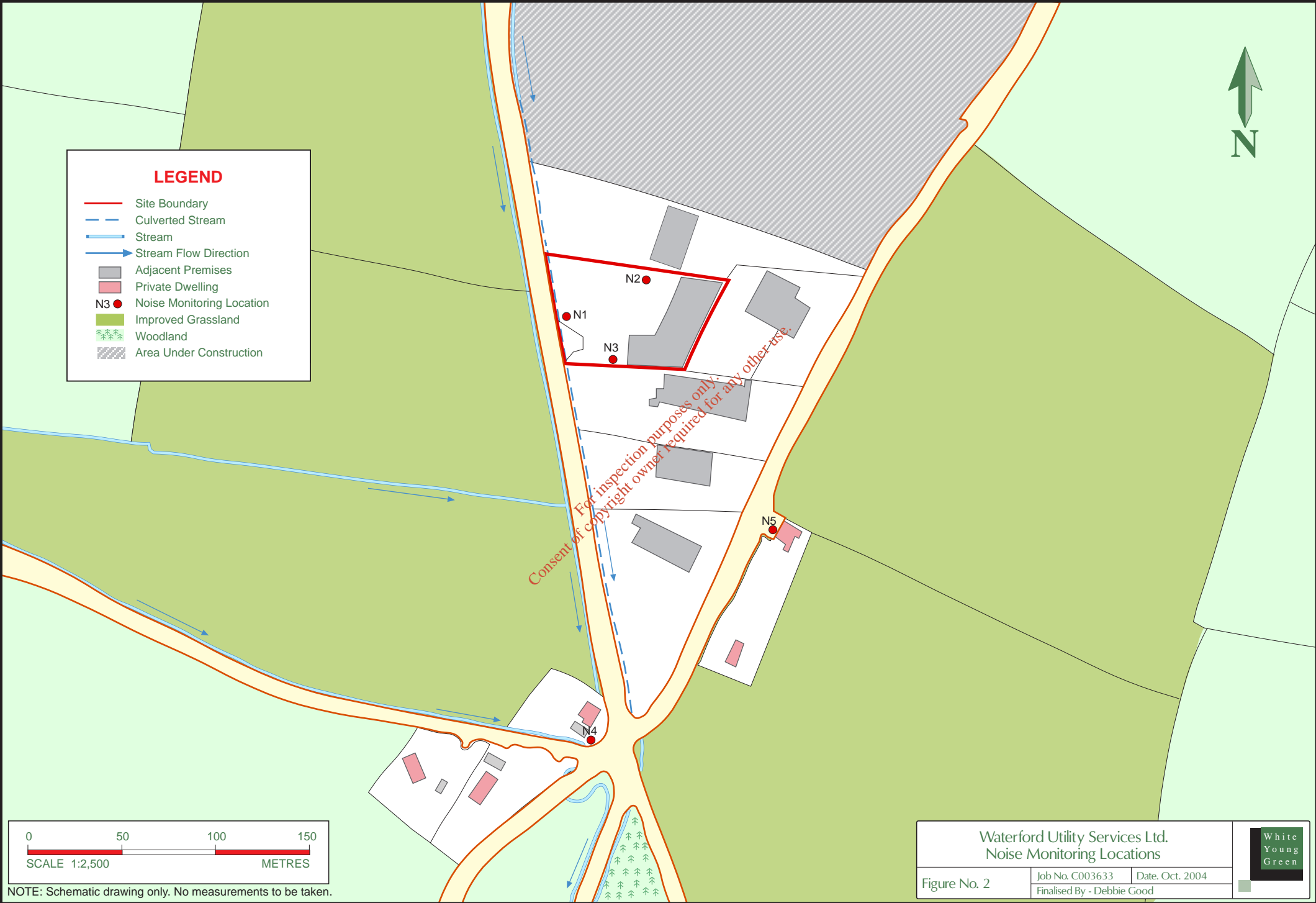
Figure No. 1	Job No. C003633	Date. Oct. 2004
	Finalised By - Debbie Good	

JF(10)



**LEGEND**

- Site Boundary
- - - Culverted Stream
- Stream
- Stream Flow Direction
- ▒ Adjacent Premises
- ▒ Private Dwelling
- N3 Noise Monitoring Location
- ▒ Improved Grassland
- 🌲 Woodland
- ▒ Area Under Construction



NOTE: Schematic drawing only. No measurements to be taken.

Waterford Utility Services Ltd. Noise Monitoring Locations		
Figure No. 2	Job No. C003633	Date. Oct. 2004
	Finalised By - Debbie Good	

### Noise Measurements – Day Time March 2006

Monitoring Point	Location	Date/Time	Sampling Interval minutes	L(A)eq	L(A) <sub>10</sub>	L(A) <sub>90</sub>	Comments
N1	Western Perimeter	22/02/06 14:50	30	67	67	56	Noise at this location was generated from HGV's entering and leaving the yard, as well as HGV's idling at the weighbridge area. Noise also emanated from HGV movement in yard, noise from reverse sirens on HGV's, noise from a bulldozer operating in site shed, revving of vehicles as they tip waste loads and noise as waste spills onto hard ground. Workers were welding a trailer approximately 15m away. Trucks were being power hosed and plastic bins were being piled in the yard resulting in loud banging noises.
N2	Northern Perimeter	22/02/06 15:52	30	74	78	60	HGV's with long waste trailer maneuvering into waste displacement bay, lots of revving and braking associated with this movement. Noise from vehicles idling/revving on weighbridge 25m away. Banging noise as skips are unloaded inside waste shed and in yard. Noise from a forklift operating within the yard. Banging noise as the claw of the crane in shed is used to compact waste into an HGV. Metal was pushed along the concrete by the JCB, the horns of trucks were blown frequently during the noise survey.
N3	Southern Perimeter	22/02/06 15:22	30	66	68	58	8 HGV's passed into the yard during monitoring, passing within 3m of meter. Noise generated by skip trucks idling on weighbridge 10m away. Impulsive banging was audible in the recycling shed along with revving and reverse alarms from loader. Background noise was generated by HGV movement in adjacent O' Keefe storage yard as two lorries arrived. A rattling noise could be heard from a metal sign banging in the wind. The horn of a lorry was blown on a number of occasions. Other interferences included traffic movements on the Greene Road. There were no tonal noise qualities evident at this point.
N4	Noise Sensitive location	22/02/06 16:31	30	51	53	48	Banging and engine noises were audible from the site at this point at a low level. Background noise included 20 cars passing on Kilbarry Rd and 4 HGV's on Green Rd. There were horses in a nearby field neighing.
N5	Noise Sensitive location – Kilbarry Rd.	22/02/06 17:05	30	66	67	49	All noise at this point was background and not associated with site. Noise at this point was associated with vans on Kilbarry Rd during monitoring. A faint hum was emitted from the Veelite facility across the road 15m away. Noise from the Waterford Utility site was not audible at this point.

### Noise Measurements – Day Time August 2006

Monitoring Point	Location	Date/ Time	Sampling Interval minutes	L(A)eq	L(A) <sub>10</sub>	L(A) <sub>90</sub>	Comments
N1	Western Perimeter	30/08/2006	30	68	71	54	Noise at this location was generated from HGV's entering and leaving the yard as well as HGV's idling at the weighbridge area. Noise also emanated from HGV movement in yard, noise from reverse sirens on HGV's, noise from a bulldozer operating in site shed, revving of vehicles as they tip waste loads and noise as waste spills onto hard ground. The location is close to the public road leading to the site and levels were influenced by vehicle movement on the road. 6 cars, 1 tractor and 11 HGVs passed. No tonal noise was detected.
N2	Northern Perimeter	30/08/2006	30	73	76	58	HGV's with long waste trailer maneuvering into waste displacement bay, lots of revving and braking associated with this movement. Noise from vehicles idling/revving on weighbridge 25m away. Banging noise as skips are unloaded inside waste shed and in yard. Noise from a forklift operating within the yard. Banging noise as the claw of the crane in shed is used to compact waste into an HGV. Tonal noise at 50Hz.
N3	Southern Perimeter	30/08/2006	30	66	69	54	8 HGV's and 5 cars passed into the yard during monitoring, passing within 3m of meter. Noise generated by skip trucks idling on weighbridge 10m away. Impulsive banging was audible in the recycling shed along with revving and reverse alarms from loader. Background noise was generated by HGV movement in adjacent O' Keefe storage yard. A rattling noise could be heard from a metal sign banging in the wind. Other interferences included traffic movements on the Greene Road. There were no tonal noise qualities evident at this point.
N4	Noise Sensitive location	30/08/2006	30	61	54	41	Main noise source at this location was from vehicles traveling on the Kilbarry and Green roads. This included 72 cars passing and 6 HGV's on these roads. There were also dogs barking. No tonal noise was detected.
N5	Noise Sensitive location – Kilbarry Rd.	30/08/2006	30	65	64	36	All noise at this point was background and not associated with site. Noise at this point was associated with vehicles on Kilbarry Rd during monitoring. 69 cars and 7 HGVs passed the monitoring location. A faint hum was emitted from the Veelite facility across the road 15m away. Noise from the Waterford Utility site was not audible at this point. No tonal noise was detected.

## Noise Measurements – Day Time August 2005

Monitoring Point	Location	Date / Time	L(A)eq
N1	Western perimeter	18/08/2005 13:13	59
N2	Northern perimeter	18/08/2005 14:19	72
N3	Southern perimeter	18/08/2005 13:46	61
N4	NSL	18/08/2005 15:05	50
N5	NSL Kilbarry Road	18/08/2005 15:40	68

Daytime noise measurements over 30 minute monitoring period.

There are no noise emission limits in the current licence. The Agency generally applies an emission limit of 55 dB L(A)eq as measured at noise sensitive locations (NSLs). The main source of noise recorded at the off-site NSLs was local traffic along the roads and neighbouring activities. No intrusive noise from the facility was audible at the NSLs. WUS has not received any complaints about noise emissions.

## Dust

The primary source of dust emissions from the facility is vehicle movements on paved open yard areas during dry periods. Waste unloading and processing is carried out internally and there are negligible fugitive emissions from this source. The facility is located within an industrial estate so there are significant off-site sources of dust also associated with vehicle movements on paved areas and the industrial estate access road.

Dust monitoring is currently carried out at 3 locations on an annual basis. The locations, all within the site boundary, are shown on Figure 1.

The results of dust monitoring carried out in August/September 2005 and 2006 are shown in the Table below.

Sample Location	Dust Emission (mg/m <sup>2</sup> /day)	Dust Emission (mg/m <sup>2</sup> /day)
	Sample Period 18 <sup>th</sup> August to 16 <sup>th</sup> September 2005	Sample Period 30 <sup>th</sup> August to 29 <sup>th</sup> September 2006
D1	577	313
D2	612	460
D3	452	620

In response to the exceedences in 2005 WUS initiated a daily yard sweeping and dampening process to ensure that dust levels on-site are kept to a minimum. During periods of dry weather, the yard is dampened down more often. The 2006 results exceeded the deposition limit (350 mg/m<sup>2</sup>/day), with the exception for D1. However, the dust monitoring report states that algal growth was noticed in gauge D2 and that there were construction activities on an adjacent site close to gauge D3, both of which would have contributed to the elevated levels.

The facility EMP, which is included in Appendix 3, describes the procedures currently applied to control dust emissions from the facility. WUS has not received any complaints about dust emissions from the facility.

It is not envisaged that the review of operations will result in any new sources of dust emissions.

## Surface Water

Surface water run-off from the roofed and paved yard area passes through a Class 1 full retention oil interceptor before discharge into the land drain opposite the facility. The land drain discharges to the St. Johns River, which is a tributary of the River Suir. All storage tanks and interceptors are maintained, emptied and cleaned in accordance with the current licence conditions. All material removed from these are sent to an off-site treatment facility approved by the Agency (ENVA, County. Laois: EPA Licence No. W0184-01). It is not proposed to alter the existing drainage arrangements.

Surface water monitoring is carried out at the discharge point from the facility (SW3) and in the drain, up (SW1) and downstream (SW2) of the discharge point. The monitoring locations are shown on Figure 1. The results of the monitoring for 2005 and 2006 are summarised in the Tables below. The licence does not set emission limit values.

### Surface Water Monitoring Q1 and Q2 2005

Parameter	Units	Q1 SW1	Q1 SW2	Q1 SW3	Q2 SW1	Q2 SW2	Q2 SW3
Ammoniacal Nitrogen	N mg/l	0.04	0.03	0.03	0.05	0.18	0.03
BOD	mg/l	3	4	4	5	<1.5	<1.5
Chloride	Cl mg/l	35	35	34	36	35	35
COD	mg/l	12	<3	14	22	<3	20
Electrical Conductivity	Uscm-1@25c	401	393	401	421	424	417
Oxygen Dissolved	mg/l	8.1	8.1	8.0	-	-	-
Total Suspended Solids	mg/l	<5	11	<5	10	<5	<5
Oils, Fats and Greases	mg/l	<1			<5	<5	<5
pH Value In Water	pH Units	7.6	7.7	7.6	7.5	7.3	7.5
Temperature	Degrees C	6.2	6.0	6.2	-	-	-

### Surface Water Monitoring Q3 and Q4 2005

Parameter	Units	Q3 SW1	Q3 SW2	Q3 SW3	Q4 SW1	Q4 SW2	Q4 SW3
Ammoniacal Nitrogen	N mg/l	0.46	0.30	0.34	0.03	0.03	<0.021
BOD	mg/l	5	3	3	<1.5	<1.5	<1.5
Chloride	Cl mg/l	9	8	9	36	35	36
COD	mg/l	16	13	16	<3	25	<3
Electrical Conductivity	Uscm-1@25c	345	377	379	400	401	401
Oxygen Dissolved	mg/l	4.0	4.6	4.4			
Total Suspended Solids	mg/l	70	32	<5	<5	7	<5
Oils, Fats and Greases	mg/l	<5	<5	<5	<5	<5	<5
pH Value In Water	pH Units	7.3	7.3	7.3	7.0	7.0	7.0
Temperature	Degrees C	17.8	17.9	17.9	-	-	-

### Surface Water Monitoring Q1 and Q2 2006

Parameter	Units	Q1 SW1	Q1 SW2	Q1 SW3	Q2 SW1	Q2 SW2	Q2 SW3
Ammoniacal Nitrogen	N mg/l	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021
BOD	mg/l	2	2	2	<1.5	2	3
Chloride	Cl mg/l	35	31	32	35	32	34
COD	mg/l	3		3	<3	4	4
Electrical Conductivity	Uscm-1@25c	407	408	404	395	390	399
Total Suspended Solids	mg/l	<5	<5	<5	<5	<5	<5
Oils, Fats and Greases	mg/l		<5	<5	18	14	23
pH Value In Water	pH Units	7.8	7.4	7.0	7.1	7.0	7.7

### Surface Water Monitoring Q3 and Q4 2006

Parameter	Units	Q3 SW1	Q3 SW2	Q3 SW3	Q4 SW1	Q4 SW2	Q4 SW3
Ammoniacal Nitrogen	N mg/l	<0.09	<0.09	<0.09	0.03	0.03	<0.021
BOD	mg/l	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Chloride	Cl mg/l	31	32	31	36	35	36
COD	mg/l	28	<3	20	<3	25	<3
Electrical Conductivity	Uscm-1@25c	392	295	396	400	401	401
Total Suspended Solids	mg/l	34	6	27	<5	7	<5
Oils, Fats and Greases	mg/l	<1	<1	<1	<5	<5	<5
pH Value In Water	pH Units	7.7	7.5	7.5	7.0	7.0	7.0



Both the surface water discharge and the water upstream and downstream of the facility are generally of good quality. It is not proposed to alter the existing surface water drainage arrangements at the facility. There will be no new sources of surface water emissions so the volume and quality will not be affected by the proposed review.

## **Odour**

Odours can be associated with the handling, sorting and transfer of both household and commercial waste due to its organic content. Odours from the handling and storage of dry recyclable material (i.e. plastics, glass, metals) and C&D waste are negligible.

The current activities, which include the acceptance of waste with an organic content, are not a significant source of odour nuisance and WUS has not received any complaints regarding odour nuisance.

Odour abatement measures include transferring putrescible waste to landfill as soon as possible, usually on the same day as its arrival to site. Any loads that cannot be sent to landfill on the same day are stored in enclosed containers or ejector trailers. All potentially odorous wastes are removed from the facility within forty eight hours in accordance with Condition 6.1 of the current licence.

It is proposed to accept approximately 30,000 tonnes of municipal waste per annum. This will have a putrescible content of approximately 20%.

An assessment of the impacts and proposed assessment and control measures are described in Section 12 (1) I.

## **Article 12 (1)(I)**

An assessment of the effects of emissions from the facility resulting from the proposed amendments to the current licence is presented below. The measures currently in place at the facility to mitigate and control environmental emissions are outlined in detail in the EMP 2006, which is included in Appendix 3.

## **Noise**

It is not proposed to change either the existing site activities, or plant and equipment. There will be no new additional noise sources. Due to the proposed extended hours of waste acceptance and operation additional night time noise surveys will be incorporated into the environmental monitoring programme. The monitoring results for 2005 and 2006 indicate that noise from site activities does not affect the nearest noise sensitive locations. The facility location, on a cul de sac in an industrial estate screened from sensitive receptors by adjoining buildings of the estate, significantly mitigates noise emissions from the waste activities.

## **Dust**

It is not proposed to change the existing site activities or plant items therefore there will be no new sources of dust. There is the potential for increased dust emissions due to increased vehicle movements. Although the ELV has been exceeded consistently, there are off-site contributor sources. Dust emissions have not previously been an issue at the facility and no complaints have been received about this issue. Abatement measures currently applied include regular yard and road sweeping and damping down in dry weather conditions and internal processing of wastes.

## **Surface Water**

The proposed amendments to the licence will not generate any new emissions or impact on the existing surface water drainage system.

## **Odour**

There is the potential for odours from the acceptance and handling of putrescible wastes. Existing odour control measures include the quick processing and removal of putrescible wastes off-site and floor cleaning of areas used to handle putrescible wastes. It is also proposed to carry out weekly monitoring of the facility perimeter and sensitive locations to assess the impact of odour nuisance. These measures will form part of the EMS for the facility.

## **Article 12 (1)(m)**

The monitoring locations are as specified in the current waste licence. The proposed changes to waste activities will not result in any new sources of emissions, therefore it is considered that the existing monitoring programme should be continued with the addition of night time noise surveys.

## **Article 12 (1)(n)**

The objective of increasing the waste volumes and extending the hours of operation is to enhance the waste recovery rates at the facility.

## **Article 12 (1)(o)**

The waste activities will not result in any changes to the types or method of off-site treatment or disposal of solid and liquid wastes, which are regulated by Condition 5.13 of the current licence.

#### **Article 12 (1)(p)**

The existing measures to prevent unauthorised or unexpected emissions and minimise the impact on the environment are described in Section 21 (1) I. WUS has prepared an Emergency Response Procedure (ERP) for the facility in compliance with Condition 10.1 of the current licence.

#### **Article 12 (1)(q)**

The proposed amendments to the current licence will not impact on the measures for the decommissioning and aftercare of the facility as regulated by Condition 8.1 of the current licence.

#### **Article 12 (1)(r)**

Not applicable, as the activity is not a landfill.

#### **Article 12 (1)(s)**

The activity is not an activity to which the European Communities (Major Accident Hazards of Certain Activities) Regulations, 2001 (S.I. No. 476 of 2000) apply.

#### **Article 12 (1)(t)**

The activity is not one that gives rise or could give rise to an emission into an aquifer containing List I and II substances specified in the Annex to the Council Directive 80/68/EEC of 17 December 1979.

#### **Article 12(l) u**

A non-technical summary of the information provided in accordance with Paragraphs (a) to (t) of Article 12 (1) is presented in Section 6.

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### 3. ARTICLE 12 (3)(a)

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The relevant conditions of the current licence that are the subject of the review and grounds for the application are, as required by Article 12 (3) (a) of the 2000 Regulations, as follows.

#### **Condition 1.1**

*Condition 1.1* stipulates that waste activities at the facility shall be restricted to those listed and described in *Part 1 Licensed Activities and Schedule A*. WUS is seeking to amend the list of Schedule 3 Activities to include for: -

#### Class 12

*Repackaging prior to submission to any activity referred to in the preceding paragraph of this Schedule.*

Non recoverable household and commercial (municipal), C&D and other non-hazardous solid waste are compacted and baled before consignment to off-site waste disposal facilities.

WUS is also seeking to amend the restrictions on the types of wastes and processes attached to the Scheduled Activities in the current Licence. The proposed amendments are presented below.

#### **Third Schedule – Waste Disposal Activities**

#### Class 11

*“Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule”.*

Non recoverable municipal, C&D and other non-hazardous solid wastes are bulked up prior to consignment to off-site waste disposal facilities.

#### 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”.*

Non recoverable municipal, C&D and other non-hazardous solid wastes are stored on-site prior to consignment to off-site waste disposal facilities.

#### **Fourth Schedule – Waste Recovery Activities**

##### Class 2

*“Recycling or reclamation of organic substances which are not used as solvents, (including composting and other biological processes)”.*

Plastics and cardboard collected separately and recovered from the incoming municipal and other non-hazardous solid wastes are consigned to off-site recycling facilities. Timber recovered from the incoming C&D waste is consigned to off-site recycling/recovery facilities. This is the principal activity at the site.

##### Class 3

*“Recycling or reclamation of metals and metal compounds”.*

Metals (ferrous and non-ferrous) which are recovered from the incoming municipal and C&D waste, and metals (e.g. aluminium cans) delivered to the facility separately, are stored on-site pending consignment to off-site recycling facilities.

##### Class 4

*“Recycling or reclamation of other inorganic materials”.*

Inorganic materials comprising inert materials recovered from the incoming C&D waste are recovered from the incoming waste and stored pending consignment off-site for recycling and or use in land reclamation projects. Glass delivered separately and recovered from the incoming waste is stored pending consignment to off-site for recycling facilities.

##### 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”.*

Recovered wastes are stored prior to consignment to off-site recycling and recovery facilities.

### **Condition 5.1**

*Condition 5.1* stipulates that only those waste categories and quantities listed in *Schedule H*: of the licence shall be accepted at the facility. Schedule H sets a maximum overall annual limit of 15,000 tonnes of waste, with individual limits set for Household and Commercial Waste (9000 tonnes) Construction and Demolition Waste (4,500 tonnes) and Other Non-Hazardous Solid Waste (1500 tonnes).

In recent years WUS has expanded its waste collection and treatment services in the South East Region and the facility is currently accepting and processing greater volumes of waste (ca 29,000 tonnes) than allowed for in the Waste Licence. WUS is seeking to increase the total limit set for all wastes accepted at the facility to 70,000 tonnes. The aims are to regularise the current position where the facility is handling more than the limits set in the current licence and allow WUS to continue to expand its waste collection and recovery activities.

WUS is also seeking the right, subject to the prior agreement of the Agency, to amend the quantities of the different categories of waste accepted at the facility provided that the total quantity of 70,000 tonnes is not exceeded. The proposed revised limits are presented in the amended Table H.1 Annual Quantities of Waste.

**Table H.1 Annual Quantities of Waste**

<b>WASTE TYPE</b>	<b>MAXIMUM (TONNES PER ANNUM) <sup>(Note 1)</sup></b>
Municipal Waste	30,000
Construction and Demolition Waste	20,000
Other Non-Hazardous Solid Waste	20,000
<b>TOTAL</b>	<b>70,000</b>

**Note 1:** The quantities of the different categories referred to in this table may be amended with the agreement of the Agency provided that the total quantity of waste specified is not exceeded.

### **Condition 5.3**

Condition 5.3 prohibits casual access from members of the public to the facility. An aim of the review is to allow members of the public access to the proposed civic amenity area. There are no sound environmental reasons why members of the public should be prevented from entering a licensed facility that provides a civic amenity area, particularly those members of the public who do not have access to a household waste collection service.

### **Condition 5.8**

Condition 5.8 restricts the waste acceptance hours to 8.00 am to 5.00 pm Monday to Friday inclusive and 8.00am to 12pm on Saturday, unless otherwise agreed with the Agency.

WUS' commercial customers increasingly require early morning/late evening collection of wastes to avoid business disruptions. Traffic restrictions in urban areas also require early morning/late evening collections. Therefore, WUS is seeking to amend Condition 5.8 to allow the acceptance of waste from 06.00 to 23:00 Monday to Sunday.

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#### **4. ARTICLE 12 (4)**

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##### **Article 12 (4)(a)**

A copy of the relevant page of the newspaper in which the Notice required under Article 6 has been published is included in Section 1.

##### **Article 12 (4)(b)**

A copy of the Site Notice erected in accordance with Article 7 is included in Section 1.

##### **Article 12(4)(c)**

A copy of the notice submitted to the planning authority (Waterford County Council) in accordance with Article 9 is included in Section 1.

##### **Article 12(4)(d)**

The position of the notice in accordance with Article 7 is shown on Drawing No. 0604818-01 Site Layout. The points at which emissions are made and the points at which monitoring and sampling are undertaken are shown on Figures 1 & 2.

##### **Article 12(4)(e)**

The fee for the review of the waste licence, €10,000, as specified in Article 41(3) and the Second Schedule of the Waste Management (Licensing) Regulations 2004, is enclosed. The fee includes for: -

Second Schedule Fees – Part 1 3.2 The disposal of waste (other than hazardous waste) at a facility (other than a landfill facility) where the annual intake is likely to exceed 25,000 tonnes but be less than 100,000 tonnes – column 3 €10,000.



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## 5. NON TECHNICAL SUMMARY

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### **Introduction**

In May 2000 the Environmental Protection Agency (Agency) issued a Waste Licence (W116-01) to Waterford Utility Services (Waste Disposal) Ltd to operate its Materials Recovery and Transfer facility at Carriganard, Butlerstown, County Wicklow. WUS is now applying to the Agency for a review of a number of the Waste Licence conditions. The information included in the application for review is based the requirements of the Waste Management (Licensing) Regulations 2004.

The objectives of the review are to: -

- To amend the licensed activities specified in Schedule A of the licence to include Class 12 of the Third Schedule – Waste Disposal Activities of the Waste Management Acts 1996 to 2003 and to change the description of those activities which are currently licensed.
- To amend the total and individual limits set for annual waste inputs to allow an increase of the total amount 15,000 tonnes specified in Schedule H to 70,000 tonnes and to remove the restrictions on the quantities of the individual wastes provided that the total of 70,000 tonnes is not exceeded in any one calendar year. It is not proposed to change the waste types accepted at the facility.
- To change the current hours of waste acceptance (08:00 and 17:00 Monday to Friday inclusive and between 08:00 and 12:00 on Saturday) to 06:00 - 23.00 seven days per week.
- To change Condition 5.3 to allow public access to a proposed on-site civic amenity facility.

### **Nature of the Facility**

The facility is non hazardous waste materials recovery and the transfer operation. Waste materials are processed and treated on-site to recovery materials that are suitable for recycling and to minimise the quantity of treated waste disposed to residual landfill.

### **Classes of Activity**

The relevant activities as per the Third and Fourth Schedules of the Waste Management Act 1996 to 2003 will be as follows: -

### **Third Schedule – Waste Disposal Activities**

#### Class 12

*“Repackaging prior to submission to any activity referred to in the preceding paragraph of this Schedule”.*

#### Class 11

*“Blending or mixture 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 – Waste Recovery Activities**

#### Class 2

*“Recycling or reclamation of organic substances which are not used as solvents, (including composting and other biological processes). This is the principal activity.”*

#### Class 3

*“Recycling or reclamation of metals and metal compounds”.*

#### Class 4

*“Recycling or reclamation of other inorganic materials”.*

#### Class 13

*“Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced”.*

### **Quantity and Nature of the Waste to be Recovered or Disposed**

The quantity and nature of the wastes are presented in Table 1.

**Table 1 Annual Waste Quantities**

<b>WASTE TYPE</b>	<b>MAXIMUM (TONNES PER ANNUM) <sup>(Note 1)</sup></b>
Municipal Waste	30,000
Construction and Demolition Waste	20,000
Other Non-Hazardous Solid Waste	20,000
<b>TOTAL</b>	<b>70,000</b>

**Note 1:** The quantities of the different categories referred to in this table can be amended with the agreement of the Agency provided that the total quantity of waste specified is not exceeded.

### **Raw and Ancillary Materials, Substances, Preparations used on the Site**

Details on the raw and ancillary materials, substances, preparations, fuels and energy that are utilised at the facility are included in the AER for 2005. The increase in waste inputs will result in an increase in fuel oil and energy usage. The actual increases in usage will be reported to the Agency in future Annual Environmental Reports (AERs).

### **Plant, Methods, Processes and Operating Procedures**

The proposed increases in the waste volumes accepted for processing will not result in any changes to the current plant, methods, processes and operating procedures either employed, or envisaged under the current licence conditions.

### **Information Related to paragraphs (a) to (g) of Section 40 (4) of the Waste Management Acts 1996 2003.**

The actual and potential emissions from the facility, which include noise, dust, odour, surface water run-off will not result in the contravention of any relevant standard or emission limit prescribed under enactment. Wastewater is not discharged from the facility, but is removed off-site in road tankers and treated in an off-site wastewater treatment plant.

The site activities take into consideration the Draft Best Available Technique Guidance Note for the Waste Sector: Waste Transfer Activities published by the EPA. The facility operations, when carried out in accordance with licence conditions, will not cause environmental pollution.

WUS is a wholly owned subsidiary of Greenstar Ltd. It is not proposed to amend the current management structure at the facility. In November 2003 WUS was successfully prosecuted on seven charges for breaches of the current Waste Licence. The charges included the off-site disposal of wastes at facilities not approved by the Agency (4 counts), failure to submit a decommissioning plan, failure to provide a proposal for financial provision and failure to maintain written records of the waste recovered or disposed of at the facility.

## **Source, Location Nature, Composition, Quantity, Level and Rate of Emissions**

### *Noise*

Noise surveys were carried out in 2005 and 2006 to assess the impacts associated with emissions from the facility. The surveys included measurements at the site perimeter and at off-site Noise Sensitive Locations (NSLs). The main source of noise recorded at the NSLs was local traffic along the roads and neighbouring activities. WUS has not received any complaints about noise emissions from site activities.

### *Dust*

The primary source of dust emissions from the facility is vehicle movements on paved open yard areas during dry periods. Waste unloading and processing is carried out internally and there are negligible fugitive emissions from this source. The facility is located within an industrial estate so there are significant off-site sources of dust. WUS has not received any complaints about dust emissions from site activities.

### *Surface Water*

Surface water run-off from the roofed and paved yard area passes through an oil interceptor before discharge into the land drain opposite the facility. Surface water monitoring is carried out at the discharge point from the facility (SW3) and in the drain, up (SW1) and downstream (SW2) of the discharge point. The monitoring for 2005 and 2006 indicates that both the surface water discharge and the quality of the water upstream and downstream of the facility is generally good.

### *Odours*

Odour emissions are associated with the handling, sorting and transfer of both household and commercial waste due to its organic content. Emissions from handling and storage of dry recyclable material (i.e. plastics, glass, metals) and C&D waste are negligible. The current materials recovery and transfer operations, which include the acceptance of waste with a putrescible content, are not a significant source of odour nuisance. WUS has not received any complaints about odours from the site activities.

## **Assessment of the Effects of Emissions on the Environment**

### **Noise**

It is not proposed to change the existing site activities or plant items. There will be no new additional noise sources. The monitoring results for 2005 and 2006 indicate that the facility when fully operational does not affect the nearest noise sensitive locations. The sites location, on a cul de sac screened from sensitive receptors by adjoining buildings of the estate, significantly mitigates any noise emissions from the facility. Due to the proposed extended working hours additional night time noise surveys will be carried out.

## **Dust**

It is not proposed to change the existing site activities or plant items therefore there will be no new sources of dust from the facility. There is the potential for increased dust emissions due to increased vehicle movements. Although the emission limit value has been exceeded consistently dust emissions there are contributory off-site sources and WUS has never received any complaints about dusts. Abatement measures to control dust include regular yard and road sweeping and damping down in dry weather conditions and internal processing of wastes.

## **Surface Water**

It is not envisaged that there will be any new sources of surface water emissions from the facility due to the review of operations.

## **Odour**

There is the potential for odours from the acceptance and handling of putrescible wastes. Existing odour control measures include the quick processing and removal of putrescible wastes off site and floor cleaning of areas used to handle putrescible wastes. It is also proposed to carry out weekly monitoring of the facility perimeter and sensitive locations to assess the impact of odour nuisance.

## **Monitoring and Sampling Points**

The proposed amendments to the current licence conditions will require additional night time noise surveys which it is proposed to carry out bi-annually at the existing monitoring locations.

## **Prevention and Recovery of Waste**

Waste oils generated during plant and vehicle maintenance are collected and sent off-site for recycling.

## **Off-site Treatment or Disposal of Solid or Liquid Wastes**

The waste activities will not result in any changes to the types or method of treatment or disposal of solid and liquid wastes.

## **Emergency Procedures to Prevent Unexpected Emissions**

WUS has prepared and adopted an Emergency Response Procedures (ERP) to address emergencies and incidents that result in unexpected emissions.

## **Closure, Restoration and Aftercare of the Site**

The proposed amendments to the current licence will not impact on the agreed measures for the closure, remediation and aftercare of the facility.

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# **DRAWING**

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NOTES

**Notes:**

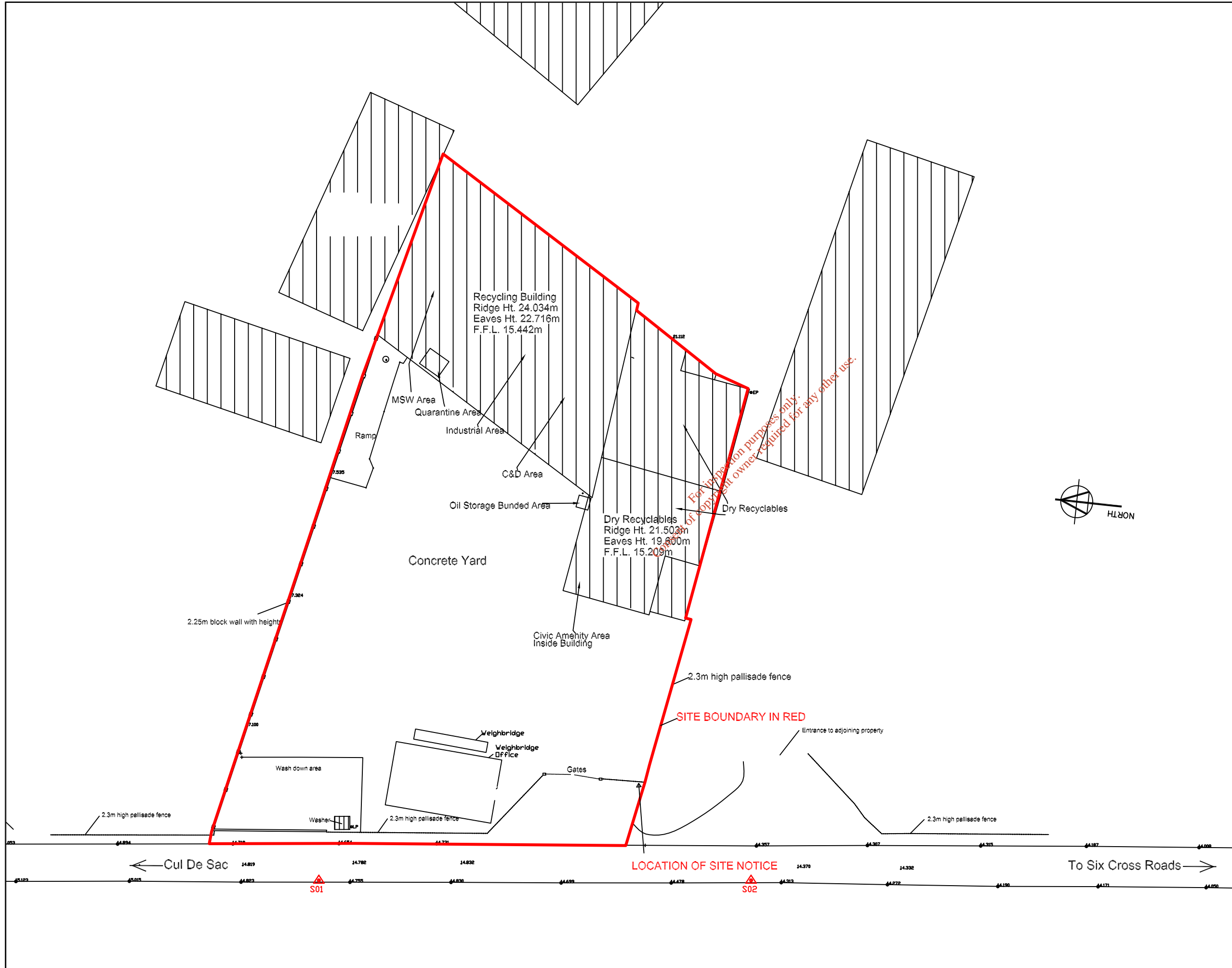
OS Benchmark of 22.35m

**Levels:**

S01: 14.776m  
S02: 14.346m

**Legend**

- PT: Ground Level
- SM: Square Manhole
- EP: Electric Pole
- LP: Lamp Post
- RL: Road Level
- MH: Circular Manhole



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A	4.02.2007	ISSUE	MW	JOC	**
REV	DATE	DESCRIPTION	DRN	CHKD	APP

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CLIENT  
**WUS LTD**

TITLE  
**SITE LAYOUT**

SCALE	DRAWING No.	REV.
1:500 A3	0604818-01	A



# **APPENDIX 1**

Applicant Company Details

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# Greenstar Holdings Limited

## Directors' report and financial statements

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# Greenstar Holdings Limited

## Directors' and other information

### Directors

M. Wynne (Non-Executive Chairman) (British)  
J. Barry (Non-Executive Deputy Chairman)  
A.G. Bailey  
S. Cowman  
J. Dempsey  
G. Dennison  
J. Dixon (Non-Executive Director)  
M. King (Non-Executive Director)  
W. Kitchen  
M. Walsh (Non-Executive Director)

### Registered office

Burton Court  
Burton Hall Road  
Sandyford  
Dublin 18

### Secretary

E. Bolger

### Bankers

Allied Irish Banks  
Bank of Ireland  
Bank of Scotland (Ireland)  
Irish Intercontinental Bank  
Ulster Bank  
Barclays Bank  
Rabo Bank

### Auditor

KPMG  
1 Stokes Place  
St Stephen's Green  
Dublin 2

### Solicitors

Arthur Cox  
Earlsfort Centre  
Earlsfort Terrace  
Dublin 2  
  
Whitney Moore  
Wilton Park House  
Wilton Place  
Dublin 2

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# Greenstar Holdings Limited

## Directors' report

The Directors have pleasure in submitting their annual report for Greenstar Holdings Limited ("the Company") and its subsidiaries (together "the Group") together with the audited financial statements for the fifteen month period ended 31 March 2006.

### Principal activity and business review

The Group remains committed to the delivery of superior returns to its shareholders over the medium term. The Group, through the Company's subsidiaries, provides services and infrastructure at each level of the waste management hierarchy. Throughout the 15 month period, the Group continued to make significant progress towards its objective of becoming Ireland's leading provider of integrated waste management solutions, and providing national coverage in the Republic of Ireland.

The Group changed its year end from 31 December to 31 March to be in line with the year end of its parent company NTR plc.

### Performance for the period and future developments

Revenue for the fifteen month period ended 31 March 2006 increased by 60% to €131.6 million (*year ended 31 December 2004: €81.9 million*). Profit for the period grew by 27% to €12.6 million (*2004: €9.9 million*). The main driver of the increase in revenue related to the operation of two additional landfills and also the expansion of the collection and transfer business through organic growth and acquisitions. The reduction in net operating margin from 17.4% to 14.7% reflects a softening of market prices amid increased competition and the impact of continued investment in management systems and infrastructure, necessary to support a fully integrated waste management business.

During the period, the Group invested significantly in residual landfill development, recycling, materials separation and bio-waste treatment activities. Total capital expenditure in the year exceeded €50.0 million. The Group's new state-of-the-art landfill in East Galway was completed in December 2005 and commenced operations in January 2006. Our KTK and Knockharley residual landfills continued to perform strongly throughout the period. During the period the Group continued to make substantial investments in its operations, which included provision for compliance with pay by use regulations and a new automated recycling processing facility.

The Group will continue to make substantial investment and has a number of planning applications currently under consideration for additional infrastructural facilities around the country. Construction on a Wicklow landfill commenced in May 2006 and is expected to be ready for commercial operation in early 2007. A state of the art materials recovery facility at Millennium Park in North Dublin to process commercial, industrial and construction waste will open in autumn 2006. The Group will continue to develop technology partnerships in the bio-waste area in readiness for the full implementation of the European landfill and bio-waste directives.

The Directors will continue to develop and enhance the current activities of the business and consider other waste management opportunities that may arise.

# Greenstar Holdings Limited

## Directors' report *(continued)*

### Principal risks and uncertainties and key performance indicators

Under Irish Company law (Statutory Instrument 116.2005 – European Communities (International Financial Reporting Standards and Miscellaneous Amendments) Regulations 2005), the Group and Company are required to give a description of the principal risks and uncertainties faced, as well as a listing of the key performance indicators used to monitor performance. The Company is the holding company for the Group, and thus the risks below apply to both the Company and the Group.

This section describes the key risks considered by the Directors to be applicable. However, it is not an exhaustive list of all possible risks associated with the Group's operations.

The principal risks and uncertainties that the business faces are as follows:

- 1 The profitability of the business is highly sensitive to landfill pricing. Landfill prices are subject to normal market fluctuations and in particular a short term softening in pricing may be expected as certain landfill facilities reach the end of their life cycle resulting in pressure to fill remaining unused void space prior to closure.
- 2 The continued growth of the business is, in part, dependent on securing planning and licencing for new facilities and for facility extensions. The planning and licencing process is of its nature uncertain given that decisions lie with external agencies, namely An Bord Pleanála and the Environmental Protection Agency ("EPA").
- 3 The odour issues inherent in the materials that the Group handles, mean that odour control is an important issue for the Group in terms of both the cost of compliance and the risk of liability to prosecution over real or alleged infringements
- 4 The issue of increased Government control over the flow of waste disposal, whereby Local Authorities are seeking to direct waste to specific facilities, poses a significant threat to the competitive landscape, and could act as a significant deterrent to future private sector investment.

The key performance indicators focused on by management are:

	<b>2006</b> <b>(15 months)</b>	2004 (12 months)
Revenue	<b>€131.5m</b>	€81.9m
EBITDA	<b>€40.0m</b>	€25.8
EBITDA margin	<b>30%</b>	31%
EBIT	<b>€19.5m</b>	€14.2m
EBIT margin	<b>15%</b>	17%
Profit for the period	<b>€12.6m</b>	€9.9m
EBITDA: interest	<b>11.0</b>	13.6
Net debt: EBITDA	<b>2.3</b>	3.0
Tonnage	<b>822,539</b>	532,907
Revenue per tonne	<b>€160</b>	€154

Key performance indicators are in line with Group targets.

# Greenstar Holdings Limited

## Directors' report *(continued)*

### **Research and development**

The Group did not engage in any research and development activities during the period.

### **Financial risk management policies**

The main financial risks affecting the Group are public and employee liability, and credit and interest risk.

#### ***Public and employee liability***

The Group holds insurance cover for public and employee liabilities of €6.5 million and €13.5 million respectively, for each and every claim. The Group also has top up insurance.

#### ***Credit risk***

The Group's objective is to ensure there are no significant risks to the Group from failure by customers to pay. To reduce this exposure, all landfill customers, which represent the largest debtor values, are insured for credit risk. In addition, all customers must undergo a credit check before commencement of services. For all other customers, the directors are of the opinion that the Group policy for provision against bad debts provides sufficient cover against any significant loss.

#### ***Interest risk***

For details on interest risk and the Group hedging policy, please refer to note 21 to the consolidated financial statements.

### **Directors and Secretary**

The Directors and Secretary who served during the period and subsequent period to date were:

M. Wynne  
J. Barry  
A.G. Bailey  
S. Cowman  
J. Dempsey (appointed 17 January 2005)  
G. Dennison  
J. Dixon (appointed 21 April 2005)  
E. Joyce (appointed 17 January 2005) (resigned 11 July 2006)  
M. King  
T. Kirwan (resigned 31 January 2005)  
W. Kitchen (appointed 17 January 2005)  
J. Mullins (appointed 17 January 2005) (resigned 1 March 2006)  
M. Walsh  
E. Bolger (Secretary)

# Greenstar Holdings Limited

## Directors' report *(continued)*

### Directors' and Secretary's interests

The interests of the Directors and Secretary who held office at 31 March 2006 in the share capital of NTR plc (the ultimate parent company) at 31 March 2006 and 31 December 2004 were as follows:

Shares	31 March 2006		31 December 2004	
	Ordinary Shares* of €0.00125 each	Share Options*	Ordinary Shares of €0.01 each	Share Options
J. Barry	2,913,737	-	209,908	-
M. King	1,515,502	-	141,602	-
M. Walsh	966,019	-	61,459	-
E. Bolger (Secretary)	-	**	-	30,000

\* On 5 June 2005 there was an 8 for 1 split of NTR plc ordinary shares.

\*\* During the period, Eamon Bolger exercised the 240,000 share options which had been awarded to him to that date. The share price of the shares on the date of exercise was €4.45, and the exercise price was €0.90.

The interests of the Directors and Secretary who held office at 31 March 2006 in the share capital of the Company at 31 March 2006 and 31 December 2004 (or date of appointment if later) were as follows:

Share options	At 31 December 2004	Forfeited during period	At 31 March 2006	Exercise price (€)	Exercise dates
A.G. Bailey	40,000	-	40,000	1	2006-2010
S. Cowman	60,000	(300)	59,700	1	2006-2010
J. Dempsey	30,000	(469)	29,531	1	2006-2010
E. Joyce	30,000	(281)	29,719	1	2006-2010
W. Kitchen	30,000	(300)	29,700	1	2006-2010

### Shareholdings

NTR plc is the beneficial owner of 3,800,000 "A" Ordinary Shares and 1 "C" Ordinary Share. Celtic Utilities Limited (of which NTR plc owns 76.95%) is the beneficial owner of 3,800,000 "B" Ordinary Shares.

### Subsidiaries

The information required by the Companies Acts, 1963 to 2005, in relation to subsidiary undertakings is set out in Note 24 to the consolidated financial statements.

# Greenstar Holdings Limited

## Directors' report *(continued)*

### **Post balance sheets events**

There have been no significant post balance sheet events which require disclosure in the financial statements.

### **Political donations**

The Group made no political donations during the period *(12 month period ended 31 December 2004: €Nil)*.

### **Accounting records**

The Directors believe that they have complied with the requirements of section 202 of the Companies Act, 1990 with regard to books of account by employing accounting personnel with appropriate expertise and by providing adequate resources to the financial function. The books of account of the Company are maintained at Unit 6, Ballyogan Business Park, Ballyogan Road, Sandyford, Dublin 18.

### **Auditor**

In accordance with Section 160 (2) of the Companies Act 1963, the auditor, KPMG, Chartered Accountants, will continue in office.

On behalf of the board

A.G. Bailey  
*Director*

S. Cowman  
*Director*

18 October 2006

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# Greenstar Holdings Limited

## Statement of Directors' responsibilities

*for the period ended 31 March 2006*

The directors are responsible for preparing the Annual Report and the Group and Company financial statements, in accordance with applicable law and regulations.

Company law requires the directors to prepare Group and Company financial statements for each financial year. Under that law the directors have elected to prepare the Group financial statements in accordance with International Financial Reporting Standards ('IFRSs') as adopted by the EU and to prepare the Company financial statements in accordance with Generally Accepted Accounting Practice in Ireland, comprising applicable law and the accounting standards issued by the Accounting Standards Board and promulgated by the Institute of Chartered Accountants in Ireland.

The Group financial statements are required by law and IFRSs as adopted by the EU to present fairly the financial position and performance of the Group; the Companies Acts 1963 to 2005 provide, in relation to such financial statements, that references in the relevant part of that Act to financial statements giving a true and fair view are references to their achieving a fair presentation.

In preparing each of the Group and Company financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and the Company will continue in business.

The directors are responsible for keeping proper books of account that disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that its financial statements comply with the Companies Acts 1963 to 2005. They are also responsible for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the Group's website. Legislation in the Republic of Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

On behalf of the board

A.G. Bailey  
*Director*

S. Cowman  
*Director*

## Independent auditor's report to the members of Greenstar Holdings Limited

We have audited the Group and Company financial statements (the "financial statements") on pages 10 to 78 of Greenstar Holdings Limited for the period ended 31 March 2006, which comprise the Consolidated Income Statement, the Consolidated Balance Sheet, the Consolidated Statement of Cash Flows, the Consolidated Statement of Recognised Income and Expense and the related notes together with the Company Balance Sheet and related notes. These financial statements have been prepared under the accounting policies set out therein.

This report is made solely to the Company's members, as a body, in accordance with section 193 of the Companies Act 1990. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

### **Respective responsibilities of directors and auditor**

The directors' responsibilities for preparing the Annual Report and the Group financial statements in accordance with applicable law and International Financial Reporting Standards (IFRSs) as adopted by the EU, and for preparing the Company financial statements in accordance with applicable law and the accounting standards issued by the Accounting Standards Board and promulgated by the Institute of Chartered Accountants in Ireland (Generally Accepted Accounting Practice in Ireland), are set out in the Statement of Directors' Responsibilities on page 7.

Our responsibility is to audit the financial statements in accordance with relevant legal and regulatory requirements and International Standards on Auditing (UK and Ireland).

We report to you our opinion as to whether the financial statements give a true and fair view and have been properly prepared in accordance with the Companies Acts 1963 to 2005 and whether, in addition, the Group financial statements have been properly prepared in accordance with Article 4 of the IAS Regulation. We also report to you our opinion as to whether: proper books of account have been kept by the Company; whether at the balance sheet date, there exists a financial situation requiring the convening of an extraordinary general meeting of the Company; and whether the information given in the Directors' Report is consistent with the financial statements. In addition, we state whether we have obtained all the information and explanations necessary for the purposes of our audit, and whether the Company balance sheet is in agreement with the books of account.

We also report to you if, in our opinion, any information specified by law regarding Directors' remuneration and Directors' transactions is not disclosed and, where practicable, include such information in our report.

We read the Directors' Report and consider the implications for our report if we become aware of any apparent misstatements or material inconsistencies within the financial statements. Our responsibilities do not extend to any other information.

## Independent auditor's report to the members of Greenstar Holdings Limited (continued)

### **Basis of audit opinion**

We conducted our audit in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgments made by the directors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Group's and Company's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

### **Opinion**

In our opinion:

- the Group financial statements give a true and fair view, in accordance with IFRSs as adopted by the EU, of the state of the Group's affairs as at 31 March 2006 and of its profit for the period then ended;
- the Group financial statements have been properly prepared in accordance with the requirements of the Companies Acts, 1963 to 2005 and Article 4 of the IAS Regulation.
- the Company financial statements give a true and fair view, in accordance with Generally Accepted Accounting Practice in Ireland, of the state of the Company's affairs at 31 March 2006; and
- the Company financial statements have been properly prepared in accordance with the Companies Acts, 1963 to 2005.

We have obtained all the information and explanations which we consider necessary for the purposes of our audit. In our opinion proper books of account have been kept by the Company. The Company balance sheet is in agreement with the books of account.

In our opinion the information given in the Directors' Report is consistent with the financial statements.

The net assets of the Company, as stated in the Company balance sheet, are more than half of the amount of its called-up share capital and, in our opinion, on that basis there did not exist at 31 March 2006 a financial situation which under Section 40 (1) of the Companies (Amendment) Act, 1983 would require the convening of an extraordinary general meeting of the Company.

18 October 2006

*Chartered Accountants*  
*Registered Auditor*  
Dublin

	<i>Notes</i>	<b>15 month period ended 31 March 2006 €'000</b>	12 month period ended 31 December 2004 €'000
<b>Revenue, including share of joint venture</b>		<b>131,586</b>	81,891
Less: share of joint venture's revenue		<b>(482)</b>	-
<b>Group revenue</b>		<b>131,104</b>	81,891
Cost of sales		<b>(86,556)</b>	(49,687)
<b>Gross profit</b>		<b>44,548</b>	32,204
Other operating income	2	<b>1,013</b>	30
Administration expenses		<b>(26,235)</b>	(17,985)
<b>Operating profit before joint venture</b>		<b>19,326</b>	14,249
Share of profit in joint venture		<b>219</b>	-
<b>Profit before financing costs</b>		<b>19,545</b>	14,249
Financial income	4	<b>22</b>	-
Financial expense	4	<b>(3,531)</b>	(1,882)
<b>Profit before tax</b>	5	<b>16,036</b>	12,367
Income tax expense	6	<b>(3,404)</b>	(2,442)
<b>Profit for the period</b>		<b>12,632</b>	9,925
<b>Attributable to:</b>			
Equity shareholders	14	<b>12,631</b>	9,925
Minority interest		<b>1</b>	-
		<b>12,632</b>	9,925

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Notes 1 to 28 form part of these consolidated financial statements.

On behalf of the board

A.G. Bailey  
*Director*

S. Cowman  
*Director*



# Short Certificate of Incorporation of a Company

*I hereby certify,*

that company number **110056**  
**WATERFORD UTILITY SERVICES (WASTE DISPOSAL) LIMITED**,  
was Incorporated under the Companies Acts, 1963 to 1983,

as a Limited Company

On  
**Wednesday, the 9th day of October, 1985.**

Given under my hand at Dublin, this

**Tuesday, the 24th day of August, 2004.**

for Registrar of Companies

  
Companies Act, 1963, sec. 370(1)

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# Greenstar Holdings Limited

*(formerly Greenstar Limited)*

## Directors' report and financial statements

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# Greenstar Holdings Limited

(formerly Greenstar Limited)

## Directors' and other information

### Directors

J. Barry (Chairman)  
A. Bailey  
S. Cowman  
J. Dempsey  
G. Dennison  
E. Joyce  
M. King  
W. Kitchen  
J. Mullins  
M. Walsh  
M. Wynne (British)

### Registered office

Burton Court  
Burton Hall Road  
Sandyford  
Dublin 18.

### Secretary

E. Bolger

### Bankers

Allied Irish Banks  
Bank of Ireland  
Bank of Scotland (Ireland)  
Irish Intercontinental Bank  
Ulster Bank

### Auditors

KPMG  
1 Stokes Place  
St Stephen's Green  
Dublin 2

### Solicitors

Arthur Cox  
Earlsfort Centre  
Earlsfort Terrace  
Dublin 2

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# Greenstar Holdings Limited

*(formerly Greenstar Limited)*

## Directors' report

The Directors have pleasure in submitting their annual report for Greenstar Holdings Limited ("the Company") and its subsidiaries (together "the Group") together with the audited financial statements for the year ended 31 December 2004.

### **Principal activity and business review**

The Group remains committed to the delivery of superior returns to its shareholders over the medium term. Throughout 2004, the Group continued to make significant progress towards its objective of becoming Ireland's leading provider of integrated waste management solutions. Revenues in 2004 increased by 8% to €81.9 million (2003: €75.9 million). Profits after tax grew by 17 % to €9.6 million (2003: €8.2 million). The small reduction in net operating margin from 17.7% to 16.9% reflects the impact of investment in management systems and infrastructure, necessary to support a fully integrated waste management business.

The Group's primary focus in 2004 was to strengthen the senior management team and to rationalise the Group's operations in order to achieve the benefits arising from the integration of six acquisitions it has made over the past three years. There were no new acquisitions made in 2004.

2004 saw a significant investment in residual landfill development, recycling, materials separation and bio-waste treatment activities. Total capital expenditure in the year exceeded €47.0 million. The Group's new state of the art landfill at Knockharley, Co. Meath was completed ahead of time and within budget. It commenced operations in January 2005. Our KTK residual landfill continued to perform strongly throughout the year. Planning permission was also received during the year for additional residual landfill facilities, at Ballynagran, Co. Wicklow and Kalconnell, Co. Galway.

The Group also successfully tendered for two three-year contracts, one with Dun Laoghaire-Rathdown Council to operate its new MSW Baling Station and Civic Recycling Park at Ballyogan, Co. Dublin and the other with Sligo County Council to operate and manage its Civic Recycling Facility in Tubbercurry, Co. Sligo.

The Group will continue to make substantial investment and has a number of planning applications currently under consideration for additional infrastructural facilities with local authorities around the country. Amongst these are applications to build recycling facilities in Dublin and Cork, residual landfills for waste that cannot be reused, recycled or recovered in Cork, Westmeath and Kildare, and a biological treatment facility to compost over 50,000 tones of biodegradable waste in Dublin.

### **Research and development**

The Group did not engage in any research and development activities during the year.

### **Future developments**

The Directors will continue to develop and enhance the current activities of the business and consider other waste management opportunities that may arise.

### **Results, dividends and state of affairs**

The Group recorded a profit for the financial year of €9.6m (2003: €8.2 million). No dividends are proposed by the Directors.

Shareholders' funds at 31 December 2004 amounted to €44.9 million (2003: €34.7 million).



# Greenstar Holdings Limited

(formerly Greenstar Limited)

## Directors' report (continued)

### Directors and Secretary

The Directors and Secretary who served during the year and subsequent period to date were:

J. Barry (Chairman)  
 A. Bailey  
 S. Cowman  
 J. Dempsey (appointed 17 January 2005)  
 G. Dennison  
 J. Gallagher (resigned 27 September 2004)  
 E. Joyce (appointed 17 January 2005)  
 M. King  
 T. Kirwan (resigned 31 January 2005)  
 W. Kitchen (appointed 17 January 2005)  
 J. Maher (resigned 27 September 2004)  
 J. Mullins (appointed 17 January 2005)  
 M. Walsh  
 M. Wynne (British)  
 E. Bolger (Secretary)

### Directors' and Secretary's interests

The interests of the Directors and Secretary who held office at 31 December 2004 in the share capital of NTR plc (the ultimate parent company) at 31 December 2004 and 31 December 2003 (or date of appointment if later) were as follows:

Shares	2004		2003	
	Ordinary Shares	Share Options	Ordinary Shares	Share Options
J. Barry	209,908	-	123,900	-
M. King	141,602	-	75,336	-
M. Walsh	61,459	-	-	-
E. Bolger (Secretary)	-	30,000	-	30,000*

\* Exercisable at €7.20 between 2005 and 2012.

The interests of the Directors and Secretary in the share capital of the Company at 31 December 2004 and 31 December 2003 were as follows:

Share options	At 31 December 2003	Granted during year	At 31 December 2004	Exercise price (€)	Exercise dates
A. Bailey	40,000	-	40,000	1	2005 – 2012
S. Cowman	-	60,000	60,000	1	2006 – 2012

# Greenstar Holdings Limited

*(formerly Greenstar Limited)*

Directors' report *(continued)*

## **Shareholdings**

NTR plc is the beneficial owner of 3,800,000 "A" Ordinary Shares and 1 "C" Ordinary Share. Celtic Utilities Limited is the beneficial owner of 3,800,000 "B" Ordinary Shares.

## **Subsidiaries**

The information required by the Companies Acts, 1963 to 2003, in relation to subsidiary undertakings is set out in Note 10 to the financial statements.

## **Post balance sheets events**

There have been no post balance sheet events which require disclosure in the financial statements.

## **Political donations**

The Group made no political donations during the year (2003: €nil).

## **Accounting Records**

The Directors believe that they have complied with the requirements of section 202 of the Companies Act, 1990 with regard to books of account by employing accounting personnel with appropriate expertise and by providing adequate resources to the financial function. The books of account of the Company are maintained at Unit 6, Ballyogan Business Park, Ballyogan Road, Sandyford, Dublin 18.

## **Health and Safety**

It is the policy of the Group to ensure the health, welfare and safety of its employees by maintaining a safe and healthy work environment. This policy is based on the requirements of employment legislation including the Safety, Health and Welfare at Work Act, 1989.

## **Change of name**

As part of an internal restructuring, Greenstar Recycling Holdings Limited changed its name to Greenstar Limited on 1 March 2004. It subsequently changed its name from Greenstar Limited to Greenstar Holdings Limited on 28 April 2004.

## **Auditors**

In accordance with Section 160 (2) of the Companies Act, 1963, the auditors, KPMG, Chartered Accountants, will continue in office.

On behalf of the board

*Director*

*Director*

2005

# Greenstar Holdings Limited

*(formerly Greenstar Limited)*

## Statement of Directors' responsibilities

*for the year ended 31 December 2004*

Company law requires the Directors to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Company and Group and of the profit or loss of the Group for that year. In preparing those financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group will continue in business.

The Directors are responsible for keeping proper books of account which disclose with reasonable accuracy at any time the financial position of the Company and the Group and which enable them to ensure that the financial statements comply with the Companies Acts, 1963 to 2003 and all Regulations to be construed as one with those Acts. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

On behalf of the board

*Director*

*Director*

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## Independent auditors' report to the members of Greenstar Holdings Limited (formerly Greenstar Limited)

We have audited the financial statements on pages 8 to 30.

This report is made solely to the Company's members, as a body, in accordance with Section 193 of the Companies Act, 1990. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body for our audit work, for this report or for the opinions we have formed.

### **Respective responsibilities of Directors and auditors**

The Directors are responsible for preparing the Directors' report and, as described on page 5, the financial statements in accordance with applicable Irish law and accounting standards. Our responsibilities, as independent auditors, are established in Ireland by statute, the Auditing Practices Board and by our profession's ethical guidance.

We report to you our opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the Companies Acts. As also required by the Acts, we state whether we have obtained all the information and explanations we require for our audit, whether the Company's balance sheet is in agreement with the books of account and report to you our opinion as to whether:

- the Company has kept proper books of account;
- the Directors' report is consistent with the financial statements; and
- whether, at the balance sheet date, a financial situation existed that may require the Company to hold an extraordinary general meeting, on the grounds that the net assets of the Company, as shown in the financial statements, are less than half of its share capital.

We also report to you if, in our opinion, information specified by law regarding Directors' remuneration and transactions with the Group is not disclosed.

### **Basis of audit opinion**

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgments made by the Directors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Group's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Independent auditors' report to the members of Greenstar Holdings Limited  
(formerly Greenstar Limited) (continued)

**Opinion**

In our opinion, the financial statements give a true and fair view of the state of the affairs of the Company and Group as at 31 December 2004 and of the Group's profit for the year then ended and have been properly prepared in accordance with the Companies Acts, 1963 to 2003 and all Regulations to be construed as one with those Acts.

We have obtained all the information and explanations we considered necessary for the purposes of our audit. In our opinion, proper books of account have been kept by the Company. The Company balance sheet is in agreement with the books of account.

In our opinion, the information given in the Directors' report on pages 2 to 4 is consistent with the financial statements.

The net assets of the Company, as stated in the balance sheet on page 14, are more than half of the amount of its called up share capital and, in our opinion, on that basis there did not exist at 31 December 2004 a financial situation which, under section 40(1) of the Companies (Amendment) Act, 1983, would require the convening of an extraordinary general meeting of the Company.

Chartered Accountants  
Registered Auditors  
Dublin

2005

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## **APPENDIX 2**

Annual Environmental Report 2005

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**Waterford Utility Services  
(Waste Disposal) Ltd  
Sixcross Roads  
Carriganard  
Butlerstown  
Waterford**

***E.P.A Waste Licence No. 116-1***

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**Annual Environmental  
Report 2005**

Prepared By:

John Mernagh  
Environmental Manager

Waterford Utility Services  
(Waste Disposal) Ltd

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## 1.0 INTRODUCTION

Waterford Utility Services (Waste Disposal) Ltd. was acquired by Ormonde Waste on the 1<sup>st</sup> of October 2004. Waterford Utility Services Ltd. subsequently in 2005 commissioned Euro Environmental Services Ltd. (EUS) to carry out environmental monitoring and associated reporting for their recycling facility Six Cross Roads, Butlerstown, Waterford, Waste Licence (WL) 116-1.

The EPA issued Waterford Utility Services Ltd. with a waste licence on 5<sup>th</sup> of May 2000. Under Condition 2, Section 2.8 of Waste Licence 116-1 an Annual Environmental Report (AER) must be prepared and submitted to the Environmental Protection Agency (EPA) for their agreement. This AER, details the activities carried out at the facility in the period from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2005.

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## 2.0 WASTE ACTIVITIES

### 2.1 Waste Types

The Waterford Utility Services Ltd. facility is licensed to handle a maximum of 15,000 tonnes of waste per annum. Municipal Waste (9,500 tonnes), construction and demolition waste (4,000 tonnes) and industrial non-hazardous waste (1,500 tonnes) are accepted at the facility. Waste loads arriving at the facility originate from County Kilkenny and Waterford City and County.

The wastes are processed within the transfer station building where the recyclable materials (e.g. glass, metal, cardboard, wood, plastic, paper) are removed and the residual waste is sent to landfill.

#### 2.1.1 Commercial and Industrial Waste

Both mixed and segregated commercial waste is collected from commercial outlets throughout the southeast region (County Kilkenny, County Waterford and Waterford City) under Waterford Utility Services Ltd Waste Collection Permit No. WCP/KK/046/02. Commercial waste rich in recyclables (paper, cardboard and plastic) is delivered to the facility by third party waste hauliers and by Waterford Utility Services vehicles. Recyclable material is segregated from the waste stream and the remaining non-recyclable or residual material is transferred to licensed landfills.

#### 2.1.2 Construction and Demolition Waste

Waste loads include mixed construction and demolition wastes and soil and stone. Construction and demolition material arrives on-site in skips of varying sizes. The waste loads are then inspected as per the facilities waste acceptance procedures and then segregated. Recyclable materials are extracted from the waste for reuse and non-recyclable materials are transferred to approved permitted facilities or licensed landfill.

### 2.1.3 Recyclables

Paper and cardboard, and plastics are collected from civic amenity centres and from kerbside recycling bin collections. All unspoilt material is either baled or loaded into bulk ejector trailers and transported to appropriate approved licensed or permitted recycling facilities.

## 2.2 Individual Waste Streams

### 2.2.1 Packaging Waste (EWC 15 01)

Packaging waste including separately collected municipal packaging is accepted at the facility. Cardboard, paper and plastics are collected from commercial and industrial premises such as supermarkets and recycling bin collections. Any mixed waste is segregated and cardboard and paper is stockpiled prior to baling. The baling process consists of placing the cardboard onto a conveyor, which feeds the baling press. The bales are stored prior to delivery to appropriate approved licensed or permitted recycling facilities.

### 2.2.2 Paper and Cardboard (EWC 15 01 01, 20 01 01)

Paper and cardboard arrive on-site in either pre-segregated or in mixed waste loads. Material suitable for recycling is baled and transferred to appropriate approved licensed or permitted recycling facilities.

### 2.2.3 Plastics (EWC 15 01 02, 20 01 39)

Plastics, including plastic bottles and plastic containers, arrive onsite in both pre-segregated and mixed waste collected from commercial and industrial premises such as supermarkets; this material is then delivered to appropriate approved licensed or permitted recycling facilities.

### 2.2.4 Metals (EWC 15 01 04, 17 04, 20 01 40)

Scrap metal arriving in mixed construction and demolition waste loads is segregated and sent for recovery to appropriate approved licensed or permitted recycling facilities.

#### 2.2.5 Wood (EWC 15 01 03, 17 02 01, 20 01 38)

Timber is segregated from incoming waste and transferred to appropriate approved licensed or permitted recycling facilities.

Any wood deemed unsuitable for recycling is removed from the waste stream and sent to various licensed landfills for disposal.

#### 2.2.6 Soil and Stone (EWC 17 05 04)

Soil and stone arrives on site in mixed construction and demolition loads. This material is then segregated and the clean material sent to appropriate approved licensed or permitted recycling facilities.

## 2.2 Processes

The equipment presently in use at the Waterford Utility Service Ltd. facility located in Six Cross Roads, Bulterstown, Waterford is detailed in Table 2.3 below.

Table 2.3 Equipment used at Waterford Utility Services Ltd. No.	Type	Model	Operational Capacity	Standby Capacity
1	Baler	Persona	15 tonnes per hour	
1	Paper Shredder		5 tonnes per day	
	Trucks	1 Hook Lifts 4 Skip trucks 1 Refuse truck 1 Curtainsider truck		1 Spare 1 Spare 1 Spare
1	Forklift	Linde 3 tonne	3 tonnes	
1	Handler/ Grab Loading Shovel	Caterpillar 210C J.C.B 310		
1	Weighbridge	Precia Molen	50 tonnes	

### 2.3.1 Waste Sorting Bay and Baler

The main recovery process at the site is that provided by the large unloading bays. Picking and sorting is done both mechanically and by hand. The baler is located within the main recycling building. The baler is capable of baling paper, cardboard, cans and plastic. Bales are stockpiled prior to removal from the site to appropriate licensed or permitted recycling facilities.

### 2.3.2 Track loading machine

A Caterpillar track machine and the JCB loading shovel are used to compress non-recyclable waste. Waste unsuitable for recycling is fed into the ejector trailers by the track machine or the loading shovel. This process increases the density and reduces the volume of the waste loads diverted to landfill.

### 2.3.3 Paper shredding Machine

The paper shredding machine is used intermittently to shred paper when necessary or at the request of customers who want certain types of paper documents destroyed.

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## 3.0 QUANTITIES AND COMPOSITION OF WASTE

Presently the facility at Six Cross Roads, Carriganard, Butlerstown is licensed to handle 15,000 tonnes of waste per annum. The quantities of material

handled at the facility during 2005 are presented in Tables 3.1.

Table 3.1

Waste Quantities Accepted	Tonnes per Annum			Final Disposal and/ or Recovery Location
	2005			
	Received	Recycled or Recovered	Landfilled	
Cardboard	1676	1441		Bailey Waste Papers Ltd
Mixed Paper	636	713		Bailey Waste Papers Ltd
Newspaper	0	6		Bailey Waste Papers Ltd
Timber	1201	1486		Weyerhauser Ltd
Plastic	52	78		Clearpoint Ltd
Scrap Metal	79	560		Molloy Metal Recycling Ltd
Drink Cans	3	3		Molloy Metal Recycling Ltd
Kerbside	9	9		Clearpoint Ltd
Glass	21	21		Kilbarry Landfill ( <i>civic amenity site</i> )
Commercial & Industrial Non-Hazardous	15861		5418	KTK Landfill
			3162	Greenstar Ltd
			1688	Tramore Landfill
			547	Kilbarry Landfill
			1200	Ballinasloe
			13	Carlow Landfill
			1399	Whiteriver Landfill
<b>35</b>	<b>(In Stock)</b>			
Construction & Demolition	6461	6676		Thomas Driver Ltd
			1269	Pat Walsh Ltd
Total Received				25999
Total Recycled or Recovered				12262
Total Landfilled				13392
<b>% of material Recycled</b>				<b>47.16%</b>

As specified in Condition 5.1 of the waste licence, only those categories and quantities listed in Schedule H shall be accepted at the facility. During 2005 a

total of 25,999.00 tonnes of waste was accepted at the facility, as per the facility site records.

### 3.1 Separation and Recovery Targets

Separation and recovery rates for 2005 are also presented in Table 3.1 during 2005 the facility reached an overall recovery rate of 47.16% or 12,262.00tonnes.

Government policy, as outlined in Changing Our Ways, aims to recycle 85% of construction & demolition waste and divert 50% of household waste from landfill by 2013. Recovery rates are expected to improve significantly in the coming year following the introduction of new procedures at the facility.

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## 4.0 ENVIRONMENTAL MONITORING AND EMISSION DATA

Monitoring of dust, surface water and noise was carried out during 2005. Original laboratory results for dust are presented in Appendix A. Original laboratory results for surface water monitoring is presented in Appendix B.



Monitoring locations are shown in Figure 1.

## 4.1 Dust

### 4.1.1 Monitoring Locations

Dust monitoring was carried out at three dust monitoring locations (D1, D2 and D3) in accordance with Schedule F of Waste Licence 116-1. Monitoring locations are shown on Figure 1.

### 4.1.2 Methods

In order to quantify the dust deposition emissions within the vicinity of the site three dust gauges were installed. Bergerhoff gauges were used as specified in the German Institute VD1 2119 document entitled —Measurement of Dustfall Using the Bergerhoff (Standard) Method and Euro environmental standard operating procedure for dustfall determination (SOP No. EM106) The dust gauges were set up so that the glass containers were approximately 1.5m above ground. There were no houses or buildings located in close proximity to the monitoring locations.

Dust monitoring was carried out on one occasion during 2005 as specified in Schedule F of WL116-1.

Sampling was conducted from the 18<sup>th</sup> August to 16<sup>th</sup> September 2005.

### 4.1.3 Dust Monitoring Results

Dust monitoring results are outlined in Table 4.1 below. Original laboratory results for dust monitoring are presented in Appendix A.

Dust monitoring results are outlined in Table 4.1 below. Original laboratory results for dust monitoring are presented in Appendix A.

Table 4.1 Dust Monitoring Results 2005

Monitoring Locations	ELV Mg/m <sup>2</sup> / day	Monitoring Period
		18 <sup>th</sup> August – 16 <sup>th</sup> September 2005 Mg/m <sup>2</sup> / day
D1		

258395E 109027N	350	<u>577.7</u>
D2 258377E 109077N	350	<u>612.3</u>
D3 258425E 109069N	350	<u>452.5</u>

#### Legend

ELV = Emission Limit Value, Results are underlined where they exceed the ELV.

Mg/m /day = Milligrams per cubic meter per day.

The results show that the dust level determined at all monitoring locations exceeds the emission limit value of 350 mg/m /day as specified in Schedule G of the Waste Licence. This incident was reported to the Agency as an incident on the 3<sup>rd</sup> October 2005. The associated incident report form is included in Appendix C.

Monitoring location D1 is situated along the southern boundary of the site. A haulier company is located south of the Waterford Utility site. Dust generated from on going vehicle movements and from loading and unloading activities occurring in the haulier's stone yard area, which is located next to the southern boundary, and also all the large volume of vehicular activity that passes the facility on a daily basis that are associated with the on-going stone and rock and construction work on the new inner city by-pass road, may be responsible for elevated dust levels at all monitoring locations.

#### 4.1.4 Summary

Dust monitoring for 2005 did not conform to the emission limit value of 350 mg/m /day as specified in Schedule G of the waste licence for the reasons stated above.

## 4.2 Surface Water Quality

### 4.2.1 Monitoring Locations.

Surface water monitoring was carried out 4 times in 2005 as per the waste

licence.

The monitoring dates were 5<sup>th</sup> March 2005 , 30<sup>th</sup> June 2005, 19<sup>th</sup> August 2005 and 20<sup>th</sup> December 2005.

#### 4.2.2 Methods

Surface water sampling was carried out by full submergence of the designated sample container into the surface water body. During submergence every effort is made to keep the container steady so as to prevent sediment disturbance. Samples were stored in cooler boxes to maintain sample temperature below 4C. All samples were submitted to the Euro Environmental laboratory within 24 hours of sampling.

#### 4.2.3 Results

Surface water monitoring results are outlined in Table 4.2 overleaf. Original laboratory results for surface water monitoring are presented in Appendix B.

#### Legend

Limit Value = Limit value for A1 water under S.I. No. 294 of 1989

< = less than, mg/l = milligrams per litre,

- = no Limit Value specified for the parameter

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**Table 4.1: Surface Water Emission Levels**

#### **1st Quarter**

<b>Sample Reference</b>	<b>4970/002/01,03,03</b>
<b>Sample Type</b>	<b>Surface Water</b>
Waste Licence No. 116-1 A.E.R 2005	January 2005 JM001

Sample Date		05/03/2005					
Parameter	Units	Surface Water Regulation			SW1	SW2	SW3
		S.I. NO. 294 of 1989					
		A1 Limit Value	A2 Limit Value	A3 Limit Value			
Ammoniacal Nitrogen	N mg/l	0.16	1.17	3.1	0.04	0.03	0.03
BOD	mg/l	5	5	7	3	4	4
Chloride	Cl mg/l	250	250	250	35	35	34
COD	mg/l	~	~	40	12	<3	14
Electrical Conductivity	Uscm-1@25c	1	1	1	401	393	401
Oxygen Dissolved	mg/l	~	~	~	8.1	8.1	8.0
Total Suspended Solids	mg/l	50	~	~	<5	11	<5
Oils, Fats and Greases	mg/l	~	~	~	<1		
pH Value In Water	pH Units	5.5-8.5	5.5-9	5.5-9	7.6	7.7	7.6
Temperature	Degrees C				6.2	6.0	6.2

Table 4.1: Surface Water Emission Levels

## 3rd Quarter

Sample Reference		4970/006/05/06/07					
Sample Type		Surface Water					
Sample Date		30/06/2005					
Parameter	Units	Surface Water Regulation			SW1	SW2	SW3
		S.I. NO. 294 of 1989					
		A1 Limit Value	A2 Limit Value	A3 Limit Value			
Ammoniacal Nitrogen	N mg/l	0.16	1.17	3.1	0.05	0.18	0.03
BOD	mg/l	5	5	7	5	<1.5	<1.5
Chloride	Cl mg/l	250	250	250	36	35	35
COD	mg/l	~	~	40	22	<3	20
Electrical Conductivity	Uscm-1@25c	1	1	1	421	424	417
Oxygen Dissolved	mg/l	~	~	~			
Total Suspended Solids	mg/l	50	~	~	10	<5	<5
Oils, Fats and Greases	mg/l	~	~	~	<5	<5	<5
pH Value In Water	pH Units	5.5-8.5	5.5-9	5.5-9	7.5	7.3	7.5
Temperature	Degrees C						

Table 4.1: Surface Water Emission Levels

## 3rd Quarter

Sample Reference		5420/001/01/02/03	
Sample Type		Surface Water	
Waste Licence No. 116-1	January 2005		
A.E.R 2005	JM001		

Sample Date		19/08/2005					
Parameter	Units	Surface Water Regulation			SW1	SW2	SW3
		S.I. NO. 294 of 1989					
		A1 Limit Value	A2 Limit Value	A3 Limit Value			
Ammoniacal Nitrogen	N mg/l	0.16	1.17	3.1	0.46	0.30	0.34
BOD	mg/l	5	5	7	5	3	3
Chloride	Cl mg/l	250	250	250	9	8	9
COD	mg/l	~	~	40	16	13	16
Electrical Conductivity	Uscm-1@25c	1	1	1	345	377	379
Oxygen Dissolved	mg/l	~	~	~	4.0	4.6	4.4
Total Suspended Solids	mg/l	50	~	~	70	32	<5
Oils, Fats and Greases	mg/l	~	~	~	<5	<5	<5
pH Value In Water	pH Units	5.5-8.5	5.5-9	5.5-9	7.3	7.3	7.3
Temperature	Degrees C				17.8	17.9	17.9

Table 4.1: Surface Water Emission Levels

## 4th Quarter

Sample Reference		5420/003/01/02/03					
Sample Type		Surface Water					
Sample Date		20/12/2005					
Parameter	Units	Surface Water Regulation			SW1	SW2	SW3
		S.I. NO. 294 of 1989					
		A1 Limit Value	A2 Limit Value	A3 Limit Value			
Ammoniacal Nitrogen	N mg/l	0.16	1.17	3.1	0.03	0.03	<0.021
BOD	mg/l	5	5	7	<1.5	<1.5	<1.5
Chloride	Cl mg/l	250	250	250	36	35	36
COD	mg/l	~	~	40	<3	25	<3
Electrical Conductivity	Uscm-1@25c	1	1	1	400	401	401
Oxygen Dissolved	mg/l	~	~	~			
Total Suspended Solids	mg/l	50	~	~	<5	7	<5
Oils, Fats and Greases	mg/l	~	~	~	<5	<5	<5
pH Value In Water	pH Units	5.5-8.5	5.5-9	5.5-9	7.0	7.0	7.0
Temperature	Degrees C						

Emission limit values are not specified for surface water in Waste Licence 116-1. Therefore as a guide parameters have been compared to the Limit Values

for A1 waters under S.I. No. 294 of 1989. These regulations categorise surface waters from which water for public supply will be taken as A1, A2 or A3, depending on the (increasing) degree of treatment which will be applied, and they set out quality standards for a total of 39 parameters. A1 waters are those which require simple physical treatment and disinfection. A2 waters are those which require normal physical treatment, chemical treatment and disinfection. A3 waters are those which require intensive physical and chemical treatment, extended treatment and disinfection.

## Results Quarter 1

Surface water monitoring was carried out at three locations (SW1, SW2 and SW3) on the 5<sup>th</sup> of March 2005, (Refer to Figure 1). SW1 is located to the North West and upstream of the facility. SW2 is located to the south west and downstream of the facility. SW3 is located to the south west and further downstream of the facility.

SW1 Surface water monitoring location SW1 is located upstream of the facility. The results from this sampling round were within the limit values for A1 waters under S.I 294 of 1989.

SW2 This monitoring location is located downstream of the facility. Results indicated that all parameters were within their respective limit values for A1 waters under S.I 294 of 1989.

SW3 is located further downstream of the facility. The results from this sampling round of surface water sampling show that all parameters were within the limit values for A1 waters under S.I 294 of 1989.

## Summary

The surface water sampling rounds conducted in Quarter 1 of 2005 indicated good quality surface water in the vicinity of the site.

## Results 2nd Quarter

Surface water monitoring was carried out at three locations (SW1, SW2 and SW3) on the 20<sup>th</sup> of December 2005, (Refer to Figure 1). SW1 is located to

the North West and upstream of the facility. SW2 is located to the south west and downstream of the facility. SW3 is located to the south west and further downstream of the facility.

SW1 Surface water monitoring location SW1 is located upstream of the facility. The results from this sampling round were within the limit values for A1 waters under S.I 294 of 1989.

SW2 This monitoring location is located downstream of the facility. Results indicated that all parameters were within their respective limit values for A1 waters under S.I 294 of 1989.

SW3 is located further downstream of the facility. The results from this sampling round of surface water sampling show that all parameters were within the limit values for A1 waters under S.I 294 of 1989.

### Summary

The surface water sampling rounds conducted in Quarter 2 of 2005 indicated good quality surface water in the vicinity of the site.

### Results Quarter 3

Surface water monitoring was carried out at three locations (SW1, SW2 and SW3) on the 20<sup>th</sup> of December 2005, (Refer to Figure 1). SW1 is located to the North West and upstream of the facility. SW2 is located to the south west and downstream of the facility. SW3 is located to the south west and further downstream of the facility.

SW1 Surface water monitoring location SW1 is located upstream of the facility. The results from this sampling round were within the limit values for A1 waters under S.I 294 of 1989.

SW2 This monitoring location is located downstream of the facility. Results indicated that all parameters were within their respective limit values for A1 waters under S.I 294 of 1989.

SW3 is located further downstream of the facility. The results from this sampling round of surface water sampling show that all parameters were within the limit values for A1 waters under S.I 294 of 1989.

### Summary

The surface water sampling rounds conducted in Quarter 3 of 2005 indicated good quality surface water in the vicinity of the site.

### Results 4th Quarter

Surface water monitoring was carried out at three locations (SW1, SW2 and

SW3) on the 20<sup>th</sup> of December 2005, (Refer to Figure 1). SW1 is located to the North West and upstream of the facility. SW2 is located to the south west and downstream of the facility. SW3 is located to the south west and further downstream of the facility.

SW1 Surface water monitoring location SW1 is located upstream of the facility. The results from this sampling round were within the limit values for A1 waters under S.I 294 of 1989.

SW2 This monitoring location is located downstream of the facility. Results indicated that all parameters were within their respective limit values for A1 waters under S.I 294 of 1989.

SW3 is located further downstream of the facility. The results from this sampling round of surface water sampling show that all parameters were within the limit values for A1 waters under S.I 294 of 1989.

## Summary

The surface water sampling rounds conducted in Quarter 4 of 2005 indicated good quality surface water in the vicinity of the site.

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## 5.0 NOISE MONITORING

### 5.1 Introduction

Waterford Utility Services (Waste Disposal) Ltd. (WUS) commissioned Euro



Environmental Services Ltd to carry out an environmental noise monitoring survey and subsequent report at its facility in Carriganard, Butlerstown, Waterford. The survey was carried out on the 10<sup>TH</sup> March and the 9<sup>th</sup> of September 2005. This monitoring was undertaken in order to comply with Condition 9 of WUS Waste Licence Ref: 116-1.

## 5.2 Existing Noise Sources

The predominant noise source in the area consists of non-site vehicular traffic associated with the third class road that runs to the south of the recycling facility. This included throughout the year all the construction traffic associated with the construction of the new by-pass that runs approx 120 meters from the facility. On site noise sources include the inward and outward movements of vehicles and associated reverse alarms and the movement of skips. Noise from inside the main recycling building includes the unloading of waste in the sorting area. The majority of these activities are carried out inside the waste transfer building in order to effectively control noise and dust emissions.

## 5.3 Local Environmental Setting

The receiving environment surrounding the site is predominantly commercial/industrial and agricultural in nature. Commercial/industrial premises bound the site to the north, east and south. The site is bounded to the west by a local access road adjacent to which is agricultural land. The nearest residential areas identified as potential Noise Sensitive Receptors (N4 and N5) are approximately 220m to the south and 120m to the south east respectively.

## 5.4 Survey Protocol

### 5.4.1 Choice of Measurement Positions and Survey Details

For the daytime survey a thirty-minute ambient noise level measurement was carried out at five locations, using an integrating sound level meter. Three measurements were carried out at the site boundaries (N1, N2 and N3) and two measurements at the noise sensitive locations, (N4 and N5). Noise monitoring locations are illustrated in Figure 2.

Weather conditions during the survey on the 10<sup>th</sup> March were "Neutral" for noise monitoring. Conditions were dry with a variable North West wind blowing 6-9 mph. Temperatures were 5-8 Degrees C. with a light to moderate breeze.

Weather conditions on the 9<sup>th</sup> September were overcast, with light rain during the survey, becoming sunny during the latter part of the survey. Temperatures were between 17-20 degrees C. A variable North West wind was blowing at 5-8 mph

The EPA defines a noise sensitive receptor as —any dwelling, house, hotel or hostel, health building, educational establishment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels". Noise monitoring locations were chosen according to the guidelines in ISO 1996: Acoustics œ Description and Measurement of Environmental Noise. In all cases, the microphone was mounted on an outdoor microphone stand, which in turn was mounted on a tripod at 1.5m above ground level and at least 3.5m away from any sound reflecting objects. A windshield was placed on the microphone to reduce any wind interference during measurements.

#### 5.4.2 Instrumentation and Methodology

The measurements were made according to the requirements of ISO 1996: Acoustics œ Description and Measurement of Environmental Noise, Part 1, and the EPA —Environmental Noise Guidance Document".

The measurements were made using Bruel & Kjaer 2250 serial no. 2463166 integrating sound pressure meter, with selective 1:1 or 1:3 octave band measurements.

The instrument was calibrated in situ at 94dB prior to and after use .The sound level meter was orientated towards the noise source during all measurement surveys.

#### 5.5 Noise Survey Results

The noise measurement results for the day-time noise monitoring survey are reported in Appendix D

## 6.0 RESOURCES AND ENERGY CONSUMPTION

Estimates of fuel and other products used at the facility from January 2005 to December 2005 are detailed below.

Resource Type	Quantity Used
Electricity	€8952.00
Hydraulic oil	500 litres
Unmarked fuel	7000 litres
Engine oil	600 litres
Auto-transmission fluid	50 litres
Gear oil	50 litres
Anti-freeze	25 litres
Detergent	600 litres

## 7.0 DEVELOPMENT WORKS DURING THE YEAR 2005

Waterford Utility Services Ltd is currently providing their commercial customers with a two and three bin collection system. One bin is used for general waste and a second bin for recyclables only, and the third for the collection of cardboard and paper. This system is currently in operation on collection routes and is been introduced to all new commercial customers on collection routes during 2006. The system aims to increase recovery rates at the facility and divert a greater quantity of commercial waste from landfill.

Development works proposed for the year 2006 include connection of the foul water system to the main public sewerage system; this is dependent on the installation of the public sewerage system in the area by the local council. Pending the development works foul water will continue to be stored on site and subsequently tankered off site for treatment and disposal at appropriate licensed facilities.

## 8.0 PROCEDURES

The Waste Procedures Manual was updated on 5<sup>th</sup> January 2006. A list of

procedures, updated during 2006 and which are currently and will continue to be followed on site are detailed below. Copies of the procedures can be found in Appendix F.

Title of Procedures included in the Waste Procedures Manual

- Waste Acceptance Procedure On-site
- Unacceptable Waste Procedure On-site
- Waste Acceptance Procedure Off-site
- Communications Procedure
- Corrective Action Procedure
- Document Control Procedure
- Emergency Response Procedure
- Procedure to Control Waste Wood Quality
- Vehicle Noise Reduction Procedure
- Yard Damping Down Procedure

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## **9.0 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS**

Table 9.1 below comments on the 2005 objectives and targets for Waterford Utility Services Ltd. The 2006 objectives and targets for Waterford Utility Services Ltd. are detailed in Table 9.2

Table 9.1 Objectives and Targets for 2005

No.	Objectives and Targets for 2005
1	All the new site procedures will help to improve the environmental performance of the company. With these new procedures in place it is possible to reduce the environmental impact the facility has on the surrounding environment.
2	The company proposes to reduce on site traffic by introducing larger trailers for the removal of waste to landfill and recyclables to their final destination.
3	The company plans to introduce a computerised wheel bin chipping system for all its commercial customers. It will provide the management with a tool for the greater recording of waste weights and composition from the waste wheel bin portion of the business. To be completed and operational by the end of May 2005.
4	The main oil bund-it area will be tested for integrity during 2005.
5	The weigh bridge will be re-calibrated during 2005.
6	The foul water system will be connected to the main public sewerage system following installation of the system in the area by the local council.
7	The company aims to increase the recovery rates at the facility.

Table 9.2 Objectives and Targets for 2006

No.	Objectives and Targets for 2006
1	To constantly review operating and waste acceptance procedures and environmental systems as to reduce the environmental impact the facility has on the surrounding environment.
2	The company proposes to reduce on site traffic movements by introducing larger trailers for the removal of waste to landfill and recyclables to their final destinations.
3	The company plans to extend the computerised wheel bin chipping system for all its commercial customers. It will provide the management with a tool for the greater accuracy and recording of material types from each individual customer, and the possibility of charging each customer on a pay per use system or pay by weight system.
4	The company aims to increase the recovery rate through greater material segregation at the facility.
5	To have a licence review application submitted to the Agency within the first quarter of 2006.
6	The foul water system will be connected to the main public sewerage system following Installation of the system in the area by Waterford City Council.

## 10.0 INCIDENTS AND COMPLAINTS

There were no complaints received during the year of operation 2004.

A dust incident occurred during the monitoring period from the 18<sup>th</sup> August to 16<sup>th</sup> September 2005.

This Incident was reported to the Agency as an incident on the 3<sup>rd</sup> October 2005.

A copy of the incident report can be found in Appendix C.

## 11.0 FINANCIAL PROVISION

The Waterford Utility Services Ltd. insurance policy provides a total indemnity limit of €6.5 million for any one incident. In terms of environmental issues the indemnity applies to accidental pollution or contamination caused as a result of activities at the facility. The environmental liabilities risk assessment identified that the main risk to the environment from the normal operations on site are limited to an oil spill to the surface water system and an uncontrolled leakage of leachate from waste inside the buildings.

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## 12.0 MANAGEMENT AND STAFFING STRUCTURE

Name	Position	Responsibilities	Experience	Replacement
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Martin Morrissey	Managing Director	Overall management of site and companies group	11 years experience	Michael Murphy
Michael Murphy	Financial Director	Group Financial Controller Accountant	7 years experience	Martin Morrissey
Denis Mullally	General Manager	Overall management of site and business	16 years experience	John Mernagh or Michael Murphy
John Mernagh	Facilities Manager	Management of site operations	19 years experience FAS Waste Management Training programme	Denis Mullally
Jim Corcoran	Systems and Operations	Group Waste Management Reports and Systems	4 years experience	Eileen Hayes or Denis Mullally
Eileen Hayes	Office Administration	Administration and Accounts	8 years experience	Amanda Byrne
Amanda Byrne	Office Administration	Accounts	21 years experience	Eileen Hayes
Michael Taylor	Transfer Station Foreman	Management of operations of transfer station	7 years experience	Ivan Cummins
Ivan Cummins	Site Foreman	General supervision of staff and Recycling Operations	21 years experience	Denis Mullally or Michael Taylor

### 13.0 PROGRAMME FOR PUBLIC INFORMATION

All information and correspondence supplied to the EPA (other than

commercially sensitive information) and received from the EPA, is available to the public to view at the facility. This includes a copy of the waste licence, all reports, monitoring results and interpretations required by the licence and other correspondence between the EPA and the facility. Any member of the public may view the information between the hours of 10.00 and 16.00 and by appointment only, at the facility.

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## **APPENDIX 3**

Environmental Management Plan 2006

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Waterford Utility Services Ltd  
(Waste Disposal)  
Sixcross Roads  
Carriganard  
Butlerstown  
Waterford

***E.P.A Waste Licence No. 116-1***

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## **Environmental Management Plan 2006**

Prepared By:

John Mernagh  
Environmental Manager

Waterford Utility Services Ltd  
(Waste Disposal)

## Index of contents:

1. Details of facility operator
2. Types of waste accepted
3. Quantity of waste accepted
4. Engineering detail & site infrastructure
5. Operational Matters
6. Measures to control environmental nuisances
7. Measures to control emissions
8. Site opening & operating times
9. Access control
10. Waste acceptance procedures
11. Equipment to be utilised
12. site personnel & management structure
13. Monitoring & maintenance procedures
14. Emergency Procedures
15. Objectives & targets

Appendix A

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# Environmental Management Programme.

## 1. Details of Operator:

Waterford Utility Services (Waste Disposal) Ltd.  
Six Cross Roads  
Carriganard  
Butlerstown  
Waterford

Tel: 051-373915  
Fax: 051-371614

Managing Director: Mr. Martin Morrissey  
General Manager: Mr. Denis Mullally  
Facility Manager: Mr. John Mernagh

## 2. Types of Waste Accepted

The Waterford Utility Services (Waste Disposal) Ltd facility is licensed to handle commercial, industrial non-hazardous waste, construction and demolition waste and recyclables. This waste is collected in the south east region in counties Waterford and Kilkenny.

### **Commercial Waste:**

Mixed commercial waste is collected from commercial outlets throughout the above regions. Commercial waste which is rich in recyclables (paper, cardboard and plastic) is delivered to the facility by the company's own vehicles and third party hauliers. Recyclable material is segregated, where possible from the commercial waste. The remaining non-recyclable or residue is transferred to approved licensed or permitted Landfills.

### **Industrial Waste:**

Mixed industrial waste is collected from industrial facilities throughout the above regions. Industrial waste which contains recyclables (paper, cardboard and plastic) is delivered to the facility by the company's own vehicles. Recyclable material is segregated, where possible from the industrial waste. The remaining non-recyclable or residue is transferred to approved licensed or permitted Landfills.

### **Construction and Demolition Waste:**

Construction and demolition waste material generally arrives on-site in skips of varying sizes. Recyclable materials such as timber, metals and plastics are removed from the waste stream for recycling and transferred to approved licensed or permitted facilities.

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## **Individual Waste Streams:**

### **Cardboard and Paper**

Cardboard is collected from commercial and industrial premises. There are two main streams of cardboard: that which arrives at the facility pre segregated and cardboard which is segregated from mixed waste when it arrives at the facility. Pre-segregated cardboard is sourced from supermarkets and industrial units. Generally this cardboard has been baled on the producer's premises. Consequently bale size can differ depending on the source. Small bales that arrive on site are disassembled and re-baled into larger bales. Cardboard is also segregated from mixed waste loads and baled. Baled cardboard is transferred into 13.5 metre curtainsider or box containers for transport to approved permitted or licensed recyclers for reprocessing.

It is proposed that the level of cardboard recycling at the facility will continue to grow over the coming years, particularly in response to the requirements of the packaging regulations. Since the company received its existing waste licence, its level of cardboard recycling has increased dramatically as new contracts have been established and new markets developed. The company hopes to further expand its cardboard recycling service in order to help meet the national demand and national recycling and recovery targets.

### **Plastics**

This waste stream generally arrives on-site in either pre-segregated or in mixed waste loads generally in the form of postindustrial waste. The level of plastic segregation is largely dependent of whether a market is available for the end product and the material is then forwarded to approved permitted or licensed recyclers for reprocessing.

### **Metals**

Metals are segregated from incoming waste and transferred to permitted metal recyclers.

### **Wood**

Wood waste is segregated from incoming waste and it is also collected as a segregated waste stream and then forwarded to approved permitted or licensed recyclers for reprocessing.

### 3. Quantity of Waste Accepted

From 1-1-05 to 31-12-05

<b>Waste Type</b>	<b>Tonnes per Annum</b>	<b>Final Destination</b>
Industrial	13942.0	KTK Landfill, Ballyogan Recycling Park, Ballinasloe Landfill, Whiteriver Landfill, Carlow Landfill, Kilbarry Landfill, Tramore Landfill
Industrial Wheel Bin	1919.0	Ballyogan Recycling Park, Ballinasloe Landfill, Whiteriver Landfill, Carlow Landfill, Kilbarry Landfill, Tramore Landfill
Packaging Cans	3.0	Molloy Metals
Scrap Metal	79.0	Molloy Metals
Cardboard	1676.0	Bailey Waste Papers
Wood	1201.0	Weyerhaeuser Ltd
White Paper	636.0	Bailey Waste Papers
Soil & Stones	6461.0	Thomas Driver/Pat Walsh
Plastics	52.0	Clearpoint Ltd
Kerbside Recyclables	9.0	Bailey Waste Papers
Glass	21.00	Kilbarry Landfill (civic amenity site)
<b>Total</b>	<b>25999.0</b>	

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## **4. Engineering Details and site infrastructure**

### **Fencing gates and other security**

Security gates and fencing have been installed around the perimeter of the site, and has been painted green as to blend in with the surrounding environment.

### **Site access roads and secondary roads**

The site access road has now been transformed into a cul de sac as there is a new link road built across part of the existing access road.

This in turn has dramatically reduced the amount of traffic that used to use this road.

### **Office and Fuel stores**

All of the fuel for vehicle use is now purchased off site, this has in turn decommissioned the main fuel storage tank, which has been cleaned out and is now used for firewater retention purposes. All other fuels or oils have been relocated to the new main bund located in the building adjacent to the old office building.

The main office building which is a purpose built portacabin style building is located adjacent to the weighbridge.

By doing this it has reduced the amount of people crossing a busy yard to the old main office to get there vehicle weighed in and out.

### **Weighbridge**

The weighbridge software has been upgrade to allow for the different details that are required by the waste licence.

The new office was relocated beside the weighbridge to gives greater control of access to the facility.

### **Drainage**

The main drainage system was completely cleaned out by a pressure cleaning vehicle and the storage tanks and interceptors have been completely emptied and cleaned out.

The local authority at this time has not extended the main public sewer to the facility.

All the contents from emptying the above where removed to

Atlas environmental Ltd,  
Clonminam Industrial Estate,  
Portlaoise,  
Co. Laois  
E.P.A Licence No. 184-1

## 5. Operational Matters

### Description of operations

Waterford Utility Services(Waste Disposal) ltd owns and operates a waste recycling and transfer station at Sixcross roads, Butlerstown, Waterford. The existing facility consists of a recycling and transfer building, a concrete yard for the storage of vehicles and containers. The concrete yard area also contains an office and administration block.

The existing facility is used to segregate commercial and industrial waste, which includes the processing of cardboard, plastic, wood, construction and demolition waste, as well as general skip waste.

The facility is open between the hours of 8.00am and 5.00pm Monday to Friday and 8.00am to 12.00pm on Saturdays.

Equipment used at the facility includes:

- Cardboard and Plastic baler
- Weighbridge
- Mechanical Road sweeper
- Powerwash
- Loaders
- Forklifts

In summary, material is brought on-site by various vehicle types. All vehicles must report to the main office reception and pass over the weighbridge where the weights and details of the waste are taken. Vehicles are then directed to the appropriate unloading bay where the load is tipped and then inspected as per the facilities waste acceptance procedures.

Plastic and cardboard are baled within the main recycling building after which it is then transported to approved permitted or licensed recyclers for reprocessing. Any residual waste is loaded into containers or trailers and sent to approved licensed landfills.

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## **6. Measures to control Environmental Nuisances**

### **Litter**

A daily litter patrol has been established at the facility whereby the site and all perimeters are checked daily for signs of litter. In addition a daily road inspection spans the area from Sixcross roads Commercial Park to the perimeter of the facility. Any litter encountered is picked up.

### **Vermin**

The facility has installed its own vermin control procedures and records. The installation of vermin control traps have been installed within the facility perimeter, and are inspected weekly and the details recorded on the weekly site inspection sheet. Records have shown that to date vermin has not posed a problem at the site.

### **Dust**

The site is mechanically swept weekly, particularly in the summer months when the weather is dryer.

### **Odour**

Any biodegradable waste that is brought to the site is transferred to landfill as soon as possible, usually on the same day. Any loads that cannot be diverted to landfill on the same day is stored in containers or ejector trailers, which mitigates the escape of any potential odours. To date Waterford Utility Services (Waste Disposal) Ltd have not received any complaints regarding any of the above nuisances.

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## **7. Measures to control Emissions**

### **Noise**

Noise has not caused a problem at the facility, as it is located in an industrial zoned site.

There have been no complaints about noise emissions from the facility to date.

### **Dust Emissions**

The site is regularly cleaned with a mechanical road-sweeping machine and more frequently in the summer months.

Dust Monitoring is carried out once per year as required by the waste licence.

There have been no complaints about dust emissions from the facility to date.

### **Surface Water & Foul Water**

During 2003 the surface and foul water handling and drainage systems were updated and completed as per the drawings submitted and approved by the E.P.A. All surface water and foul drain covers and grids were repainted as so they can be easily identified in November 2005 as per the conditions of the site licence. All surface run off water passes through a Class 1 full retention oil interceptor before discharge into the land drain opposite the facility.

All storage tanks and interceptors are maintained and emptied and cleaned as per the site waste licence. All material removed from these are removed to license processing listed below.

Atlas Environmental Ltd,  
Clonminam Industrial Estate,  
Portlaoise,  
Co. Laois  
E.P.A Licence No. 184-1

## **8. Site opening and operating times**

The facility is open for business between the following day and operating hours.

Monday to Friday	8.00 am to 5.00 pm
Saturday	8.00 am to 12.00 pm
Sundays	Closed

## **9. Access Control**

All vehicles entering the site must report to the weighbridge and the weighbridge operator located at the site office.

## **10. Waste Acceptance Procedures**

Procedures have been devised for the acceptance of waste. In addition a procedure has been devised outlying the procedure regarding unacceptable waste both on site and off site.

These procedures are maintained in the waste acceptance procedures file, which is maintained in the site office for inspection.

All procedures are reviewed on an annual basis.

## **11. Equipment to be utilised**

Equipment used at the facility include

- a. Cardboard and plastic baler
- b. Mechanical road sweeper
- c. Weighbridge
- d. Loaders
- e. Forklifts
- f. Vehicle & Container Power washer

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## 2. Site Personnel and Management structure

### **MANAGEMENT AND STAFFING STRUCTURE**

The current management structure at the Waterford Utility Services (Waste Disposal) Ltd facility is detailed in Table 11.1 below.

**Table 11.1 Management and Staffing Structure**

<b>Name</b>	<b>Position</b>	<b>Responsibilities</b>	<b>Experience</b>	<b>Replacement</b>
Martin Morrissey	Managing Director	Overall management of site and companies group	11 years experience	Denis Mullally or John Mernagh
Michael Murphy	Financial Director	Group Financial Controller Accountant	7 years experience	Martin Morrissey
Denis Mullally	General Manager	Overall management of site and business	13 years experience	John Mernagh or Martin Morrissey
John Mernagh	Facilities Manager	Management of site operations	18 years experience FAS Waste Management Training programme	Denis Mullally or Ivan Cummins
Amanda Byrne	Office Administration	Administration	5 years experience	Denis Mullally or Eileen Hayes
Eileen Hayes	Office Administration	Administration	21 years experience	Amanda Byrne or Denis Mullally
Ivan Cummins	Transfer Station Foreman	Management of operations of transfer station	19 years experience	Michael Taylor or Denis Mullally
Michael Taylor	Site Foreman	General supervision of staff and site operations	5 years experience	Ivan Cummins or Denis Mullally

### **13. Monitoring & Maintenance procedures**

Environmental monitoring is conducted as required under Condition 9 of the waste licence. All monitoring is undertaken by Euro Environmental Services Ltd..

#### **Dust**

Monitoring is only required to be carried out once per year between May and September. Three dust monitoring points have been agreed with the E.P.A. Dust limits are as outlined in schedule f of the waste licence.

#### **Noise**

Noise Monitoring takes place twice per year at the six locations as required under condition 9.5 and schedule F2 of the waste licence. The monitoring locations are chosen to provide an indication of noise levels experienced on site and at the nearest sensitive noise receptors (Domestic Dwellings).

#### **Water Quality**

It is possible to obtain water samples from all three locations that are laid out and marked on the site plan submitted in the environmental impact assessment. Samples are taken quarterly for the parameters as outline in table F.4.2 of the waste licence.

#### **Vehicle Maintenance**

All vehicles are maintained as per the manufactures specifications

### **14. Emergency Procedures**

All emergency procedures are maintained in a separate file in the site office for inspection, and are reviewed on an annual basis or as required.

## 1. Objectives and targets.

Objectives and targets have been developed for the facility. The objectives and targets concentrate on the following issues.

- Water
- Air
- Land
- Waste
- Nuisance
- Resources

The objectives and targets were arrived at following a review of the facility after which those environmental issues which, were deemed to be significant had objectives and targets assigned to them. A work programme has been devised in order to implement the objectives and targets. The work programme outlines: the steps that are required to implement the objectives and targets; who is responsible for their implementation; the deadline by which they should be achieved; and the current status. See Appendix A.

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