

RPS Consulting Engineers, Carnegie House, Library Road, Dun Laoghaire, Co Dublin, Ireland  
T +353 (0)1 202 0870 F +353 (0)1 202 0707 E ireland@rpsgroup.com W www.rpsgroup.com/ireland

Our Ref: MDR0349Lt0069  
File Ref: 330

E-mail: cathriona.cahill@rpsgroup.com  
Dial: +353 (0)1 2020870  
Date: 15<sup>th</sup> December 2006

Ms Aoife Loughnane  
Inspector  
Office of Licensing & Guidance  
Environmental Protection Agency,  
Regional Inspectorate  
McCumiskey House  
Richview  
Clongskeagh Road  
Dublin 14

ENVIRONMENTAL PROTECTION AGENCY

19 DEC 2006

RICHVIEW  
OFFICE OF LICENSING & GUIDANCE

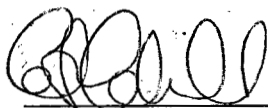
Re: **Tramore Landfill Waste Licence W0075-02 -  
Article 14(2)(b)(ii) Waste Management (Licensing) Regulations 2004**

Dear Ms Loughnane,

We refer to the above and the Agency's correspondence to Mr Denis McCarthy dated 13<sup>th</sup> June 2006 and hereby enclose 3 no. copies + CD-ROM (pdf format) of Waterford County Council's response.

We are providing this information on behalf of Waterford County Council. If you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,



Cathriona Cahill  
For & on behalf of RPS Consulting Engineers

CC/cc

cc Mr Jimmy Mansfield, Senior Executive Engineer, Waterford Co. Co.



ENVIRONMENTAL PROTECTION AGENCY  
 19 DEC 2006  
 RICHVIEW  
 OFFICE OF LICENSING & GUIDANCE

# Response to EPA Article 14 Request for Additional Information – W0075-02

## DOCUMENT CONTROL SHEET

Client	Waterford County Council					
Project Title	Tramore Landfill Design & Remediation					
Document Title	Response to EPA Article 14 Request for Additional Information					
Document No.	MDR0349Rp0010					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	5	-	-	-

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	C. Cahill	L.Herity	L.O'Toole	Carnegie House	Dec 2006

**Consulting Engineers**

# TABLE OF CONTENTS

**BACKGROUND TO ARTICLE 14 REQUEST ..... 1**

**RESPONSE TO SECTION 1..... 1**

**RESPONSE TO SECTION 2 ..... 2**

**RESPONSE TO SECTION 3..... 3**

**RESPONSE TO SECTION 4..... 3**

**RESPONSE TO SECTION 5..... 4**

**NON-TECHNICAL SUMMARY..... 4**

**NOTICE IN ACCORDANCE WITH ARTICLE 8..... 5**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## BACKGROUND TO ARTICLE 14 REQUEST

Waterford County Council have been requested by the EPA (correspondence dated the 13<sup>th</sup> June 2006) to supply additional information under an Article 14(2)(b)(ii) request of the Waste Management (Licensing) Regulations 2004, in respect of a review of Waste Licence No. W0075-01 for the Tramore Waste Disposal Site, Co. Waterford. The following report provides information to answer each individual question raised within the Article 14 request.

- 1) *As required by Article 12(1)(f), specify all classes of activity concerning the entire facility (closed landfill, civic waste facility and proposed composting facility) in accordance with the Third and Fourth Schedule of the Waste Management Acts, 1996 and 2005. Provide a summary description of each class applied for. Indicate whether the classes authorised under Licence Reg. No. W0075-01 are still applicable, and identify any classes to be removed, as appropriate. Note that the recovery of landfill gas by flaring/electricity generation is a waste recovery activity covered under Class 9 of the Fourth Schedule.*

### RESPONSE TO SECTION 1

The classes of activity relevant to the entire facility are identified and described in the Table below. The principle activity is Class 2 of the fourth schedule regarding the 'recycling or reclamation of organic substances'.

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

The following classes of activity no longer apply to the facility and are to be removed:

**Class 1 Activity Deposit on, in or under land (including landfill):** This activity is limited to the landfilling of waste, and as disposal of waste ceased at the facility on 31<sup>st</sup> December 2005, it no longer applies.

The following classes of activity are supplementary to the classes of activity that have previously been specified for the general application of the landfill facility and civic amenity area:

**Class 9 Use of any waste principally as a fuel or other means to generate energy:** This activity is limited to the future use of landfill gas as an energy source. As part of the restoration of the landfill, landfill gas will be extracted and flared; however if feasible, the Licensee will reuse the landfill gas as an on-site energy source.

**Class 10 The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:** The use of the finished compost products as a soil improver for restoration of landfill and use on grass verges, lawns, playing pitches etc will have beneficial consequences for the land to which it is applied.

**Class 12 Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule:** The exchange of wastes for reuse/recycling/recovery at the facility.

- 2) As required by Article 12(1)(g), specify in tabular form, by reference to the relevant European Waste Catalogue Codes, the types and quantities of waste, which will be treated, recovered or disposed of at the civic waste facility.

## RESPONSE TO SECTION 2

The following list comprises all EWC codes for the types of waste to be accepted at the civic waste facility.

Type	EWC Code	Quantity (tpa)*
Separately collected fractions (except 15 01)	EWC 20 01	275
Textiles	EWC 20 01 11	0.4
Fridges	EWC 16 02 11*	15
Oil and fat other than those mentioned in 20 01 25	EWC 20 01 26	1
Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	EWC 20 01 36	50
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (21)	EWC 20 01 35*	15
Mixed Metals	EWC 17 04 07	65
Bulky waste	EWC 20 03 07	450
Biodegradable waste	EWC 20 02 01	200
Wood	EWC 17 02 01	130
Glass	EWC 17 02 02	10

Type	EWC Code	Quantity (tpa)*
Paint, inks, adhesives and resins other than those mentioned in 20 01 27	EWC 20 01 28	5
Lead batteries, Ni-Cd batteries, mercury-containing batteries, alkaline batteries (except 16 06 03)	EWC 16 06 01/02/03/04	5
Medicines other than those mentioned in 20 01 31	EWC 20 01 32	0.1
Gases in pressure containers (including halons) containing dangerous substances	EWC 16 05 04*	0.2
Fluorescent tubes and other mercury-containing waste	EWC 20 01 21*	0.1
Rubble	EWC 17 05 01	325
Municipal waste not otherwise specified (Green waste from households)	20 03 99	400
Plant tissue waste (Commercial green waste)	02 01 03	200
Soil and stones	20 02 02	10
Woodchip (to be used as bulking material)	20 01 38	190
<b>Total Accepted</b>		<b>2,346.7</b>

Note that these are only indicative quantities and are subject to change depending on seasons and availability. The quantity of green waste to be accepted for composting will not exceed 1,000 tonnes.

- 3) *Submit a suitably scaled site plan of the entire facility, showing the site boundary outlined in red. In addition, submit a suitably scaled map which shows all monitoring and sampling points identified in Licence Reg. No. W0075-01 (landfill gas, noise, surface water, ground water and leachate), any further points agreed with the Agency since grant of Licence Reg. No. W0075-01, and the monitoring and sampling points proposed in this licence review application.*

### RESPONSE TO SECTION 3

See attached Dg0302 and Dg0303.

- 4) *Provide an update on the current status of final capping works, landfill gas infrastructure and leachate management infrastructure specified under Licence Reg., No. W0075-01.*

### RESPONSE TO SECTION 4

Lining works commenced the week beginning the 6<sup>th</sup> November. Prior to this, in August 2006, a Project Manager was appointed to supervise and co-ordinate the remediation works at the Landfill. However, it has been difficult to source sufficient supplies of cover material as it is not readily available in the area. In addition poor weather conditions have also slowed progress. Lining in poor weather conditions is itself a health & safety risk. The Project Manager, Landfill Manager and Contractor, who meet on a weekly basis will make every effort to progress the works in a safe manner.

Lining Technology/FlareTech has been appointed to install the gas/leachate extraction system and flaring system. The drilling of the wells commenced the week beginning 4<sup>th</sup> December 2006. Wells will initially be connected up to a temporary flaring system to allow for a pumping trial to be undertaken, which will confirm the final flare capacity and the design of the gas collection pipework (to ensure that the requirements for landfill gas migration and controls are met). During this time, further

investigation of leachate behaviour will be undertaken to determine which wells to use for leachate extraction.

- 5) *Submit the appropriate fee for the review of your waste licence in accordance with Article 41 of the Waste Management (Licensing) Regulations 2004.*

## RESPONSE TO SECTION 5

Waterford County Council note the fee payment requirements and will forward payment in due course.

## NON-TECHNICAL SUMMARY

### Landfill

The landfilling of waste ceased permanently at the facility in December 2005 and hence this activity and activities associated with landfilling are no longer relevant at the facility.

### Civic Waste Facility

The civic waste facility as licensed by Waste Licence W0075-01 caters for approximately 2,500 tonnes of material per annum, which will include approximately 1,000 tonnes of green waste per annum for composting as outlined below.

### Composting Facility

The composting facility is designed to cater for 1,000 tonnes of green waste per annum. The waste, which includes grass, branches, weeds etc. will be delivered to the site via the Civic Amenity Site and stored in an adjacent covered concrete area.

The larger material (branches etc.) will be shredded and blended with the smaller material prior to loading on a curing bunker. The curing bunker is an engineered composting system supplied by Celtic Composting Systems to accelerate the composting process. The shredded material is formed into piles on the curing bunker. The aerated concrete floor draws air through the pile to accelerate the composting process and this air is subsequently passed through a biofilter to remove any residual odour. The material is typically maintained in the curing area for six to eight weeks prior to screening. Temperatures will be monitored in each pile on a continuous basis using radio transmitter temperature probes. The airflow to each curing cell is subsequently regulated by valves on the manifold pipe in response to temperature changes. During the six to eight weeks the piles are turned once in order to avoid compaction while minimizing the incidental release of odours.

Any leachate generated in the process is collected in a tank and either recirculated through the compost or transferred off site. The entire process is covered to avoid the generation of leachate by rainwater.

After approx. eight weeks in the composting process the compost is ready for screening. Screening involves the passage of the mature compost through a trommel screen that separates the material into a fine compost fraction (<15mm) and oversized material.

Once screened the final material will be sampled and sent for testing. The resultant material will have a fine structure and can be used as a soil conditioner in the locality. The oversized material is recycled back to the start of the process.

### Energy Generation

In accordance with Condition 3.12 of the Waste Licence, extraction wells are currently being installed for the active collection and flaring of landfill gas. Options are currently being examined for small-scale reuse of the energy and if feasible, the Licensee will reuse the landfill gas as an on-site energy source.

### NOTICE IN ACCORDANCE WITH ARTICLE 8

Waterford County Council have examined the above implications in meeting the following requirements of Article 8 and will submit evidence in relation to compliance with these requirements in the coming weeks:

Erect a Site Notice with the necessary amendments in a location in accordance with Article 7(1)(b) of the Regulations, and submit evidence of same to the Agency;

Republish the Newspaper Notice with the necessary adjustments, and submit evidence of same to the Agency.

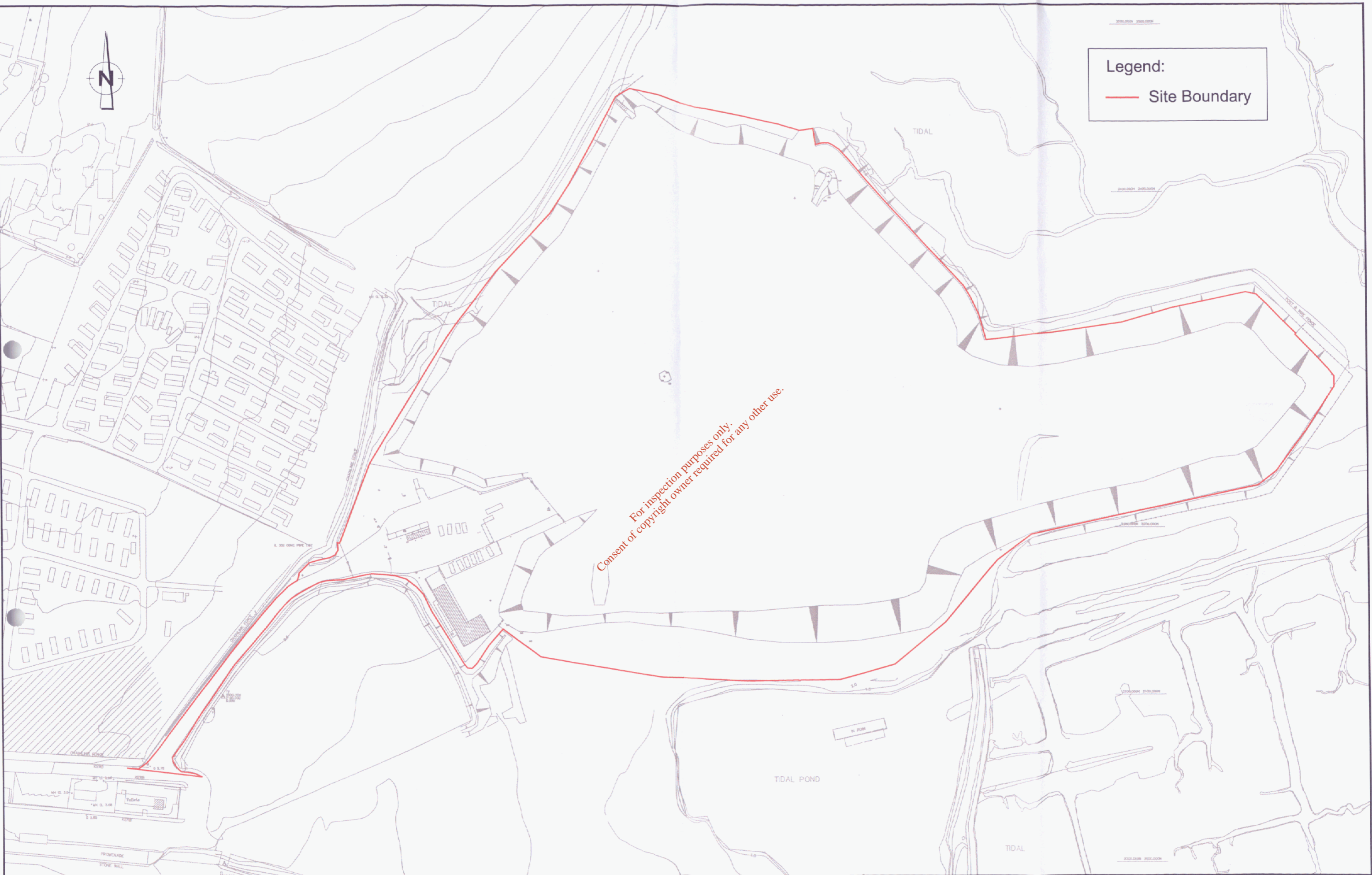
For inspection purposes only.  
Consent of copyright owner required for any other use.



**Legend:**  
— Site Boundary



For inspection purposes only.  
 Consent of copyright owner required for any other use.



Client:



**WATERFORD COUNTY COUNCIL**  
 Comhairle Chontae Phort Láirge  
 Civic Offices, Davitt's Quay, Dungarvan  
 Tel: +353 (0)58 22000  
 Fax: +353 (0)58 42911

**RPS Consulting Engineers**

RPS Consulting Engineers, Carnegie House,  
 Library Road, Dun Laoghaire, Co. Dublin, Ireland.  
 T: +353 1 202 0870 - F: +353 1 202 0707  
 E: ireland@rpsgroup.com W: www.rpsgroup.com/ireland

**NOTES**

- This drawing is the property of RPS Consulting Engineers, it is a confidential document and must not be copied, used, or its content divulged without prior written consent.
- All Levels refer to Ordnance Survey Datum, Mean Head.
- DO NOT SCALE, use figured dimensions only, if in doubt ask.

No.	Date	Amendment / Issue	App.
F01	Dec'06	Final Issue	LOT

Project:

**TRAMORE LANDFILL**

Title:

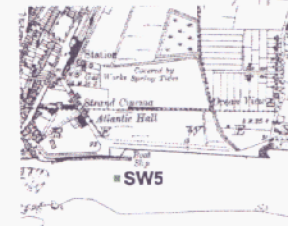
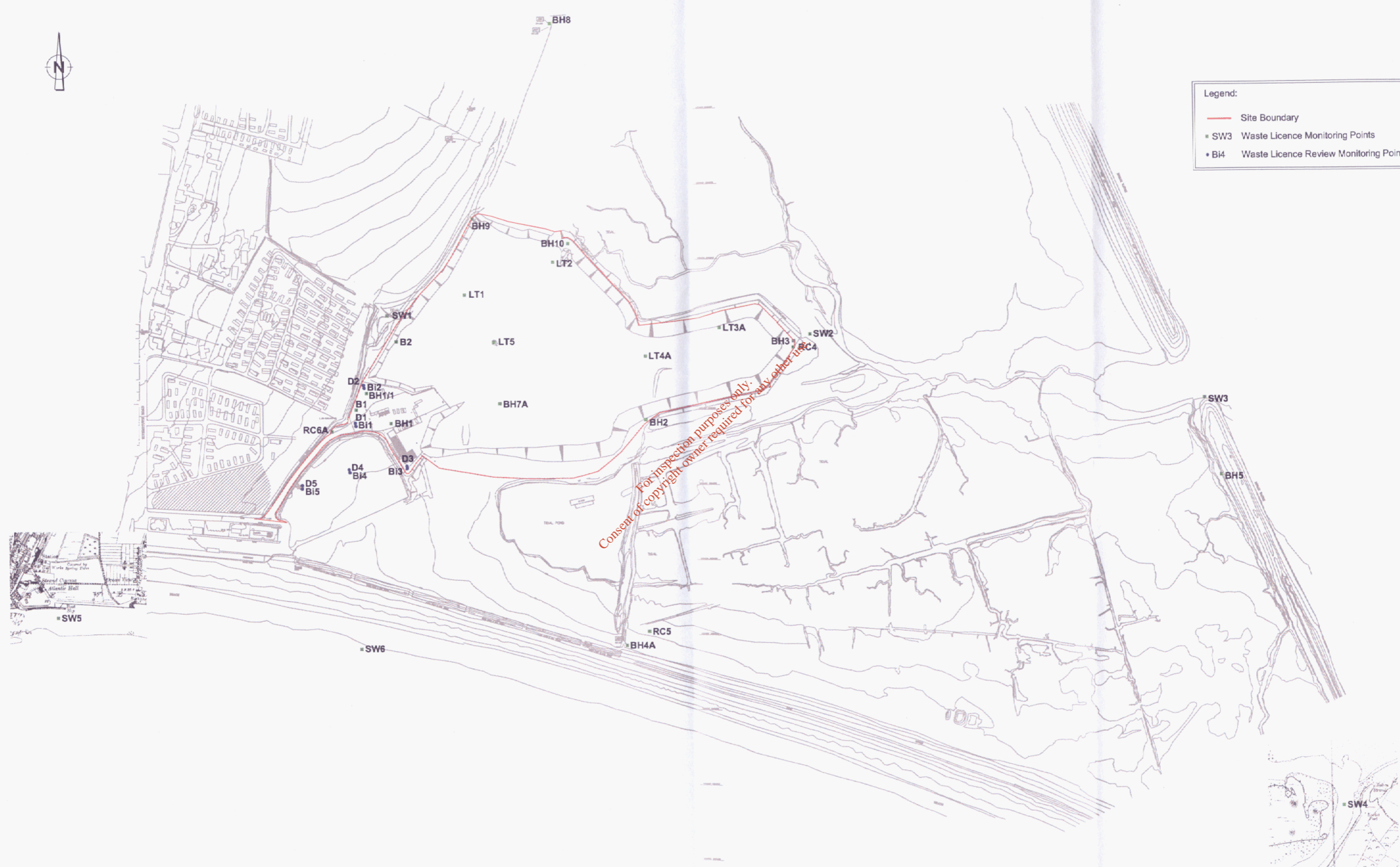
**SITE LAYOUT PLAN**

Drawn by:	HF	Job No:	MDR0349
Checked by:	CC	File No:	mdr0349DG0302F01
Approved by:	LOT	Drg. No:	Rev:
Scale:	1:2000 @ A3	<b>DG0302</b>	<b>F01</b>
Date:	Dec. '06		



**Legend:**

- Site Boundary
- SW3 Waste Licence Monitoring Points
- BI4 Waste Licence Review Monitoring Points



Client:



**WATERFORD COUNTY COUNCIL**  
**Comhairle Chontae Phort Láirge**  
 Civic Offices, Davitt's Quay, Dungarvan  
 Tel: +353 (0)58 22000  
 Fax: +353 (0)58 42911

**RPS Consulting Engineers**

RPS Consulting Engineers, Carnegie House,  
 Library Road, Dun Laoghaire, Co. Dublin, Ireland.  
 T: +353 1 202 0670 - F: +353 1 202 0707  
 E: ireland@rpsgroup.com W: www.rpsgroup.com/ireland

**NOTES**

- This drawing is the property of RPS Consulting Engineers, it is a confidential document and must not be copied, used, or its content divulged without prior written consent.
- All Levels refer to Ordnance Survey Datum, Mean Head.
- DO NOT SCALE. Use figured dimensions only, if in doubt ask.

No.	Date	Amendment / Issue	App.
F01	Dec'06	Final Issue	LOT
		Amendment / Issue	App.

Project:

**TRAMORE LANDFILL**

Title:

**MONITORING LOCATIONS**

Drawn by:	HF	Job No:	mdr0349
Checked by:	CC	File No:	mdr0349DG0303F01
Approved by:	LOT	Dwg. No:	DG0303
Scale:	1:2500 @ A1	Rev:	F01
Date:	Dec. '06		