Murphy Environmental Gormanston

EPA Licence W0151-01

Annual Environmental Report 2009









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A OPENING STATEMENT: GENERAL MANAGER/ DIRECTOR

Dear Reader,

Patricia Rooney

Once again we bring our Annual Environmental Report 2009 to the public domain, and what a difference a year makes. This year, like every other business in Ireland, we have had the most challenging experience to date just managing the business of business and surviving the current climate. No pun intended here we are talking *economics* not *environment* in this instance.

Gormanston can be fairly accurately summarised as the location that serves, in the main, the residential construction sector in providing appropriate disposal and recovery solutions. Need I say any more than that, to explain the challenges we have faced this year. Literally hundreds of building companies have gone out of business and building effectively ceased in Ireland, certainly in quarters 1 to 3 inclusive, as we held our collective national breath to see what was going to happen with the banking crisis.

As the Director of a Waste Licensed facility, however, you do not have the luxury of simply stopping what you are doing and waiting to see what happens - you must manage every situation with the licence, the attaching obligations, and environmental security at the forefront of your decision-making. As the Director of any company you must manage the business with your corporate governance obligations at the forefront of your decision-making. As the Director of a company that is first and foremost grounded in the community, the company employees, their welfare and security, you must manage the business with the impacts on their lives and their expectations at the forefront of your decision-making. Simple then!

If you take an analytical view of how best to achieve this, you first consider your strengths. Our strengths have always been our people - the staff of Murphy Environmental - and our systems and management procedures. We could not get through 2009 without assessing, with a rigorous attention to detail, every single cost and managing that cost downward, without compromising our responsibilities. That is exactly what we have done in 2009, responded to the situation we found ourselves operating in and we did it with maximum co-operation from our staff here.

We are half the company we were; literally having had to put all the staff on a three-day week after the implementation of redundancies for many, which halved our numbers as a result. We said good-bye to many of our long-standing staff members who had transferred from our parent company, MCM Ltd., to us, and clocked up decades of service with the company. There was a lot of sadness and many tears shed in 2009 around here.

> ***This introduction gives me the opportunity to say publicly that we are extremely indebted to those who are now gone from the company and those who remain with us. Each of them has made it possible for Murphy Environmental to manage the way through 2009 and they are committed to an equal effort in 2010 - with that kind of support you feel unbeatable. It is fair and accurate to say we could not do it without them.***

Our community commitment remains as strong as ever and, even though it too came under close scrutiny, we did retain what was in our opinion most important to our locality and our hearts, the children's environmental support project. The national schools in our locality still retain the benefits of our contributions annually to their budgets for the promotion of environmental awareness within their schools.

We also retained our sponsorship of Bellewstown Races and continue to offer our practical assistance through the Managing Director, Seamus Murphy, who is one of the stalwart committee of the Bellewstown Racecourse and gives of his time, expertise and manpower to oversee the management and preparation of the racecourse grounds every year. This is the oldest racecourse in Europe and has the special features of a typical Irish country racecourse, which are disappearing rapidly from so many of the other racecourses in Ireland in favour of a more modern and service-driven incarnation. However, nothing beats the atmosphere of a day's racing on 'the Hill', as it is affectionately known locally, and we are four square behind preserving that important experience for everyone.

On the whole, even with all the challenges we have faced and still have to face, we are upbeat here at Murphy Environmental about the future.

> ***We have a great and experienced team, we have a sound business model, a committed determination to manage and maintain the highest environmental standards.***

And we have one more special thing! We are fair, honourable and dedicated to our roles as the environmental managers of our facility and we know that with that at the core of our thinking, we have a lot to be optimistic about.

We stand together as a team and we share the challenges and obstacles thrown at us as a team. We did not break any records or win any awards this year because we did not aim for those accolades, we aimed to manage a negative economic outlook and endure nonetheless. Mission accomplished; see you at the end of 2010!

Patricia Rooney.

B

ABOUT THE GORMANSTON FACILITY

Murphy Environmental holds a Waste Licence (Number W0151-01) from the Environmental Protection Agency ('EPA', also referred to as 'the Agency') for restoration of the Gormanston site and recovery of inert Construction & Demolition (C&D) materials. The site is located just off the M1 motorway at Sarsfieldtown, Gormanston, Co. Meath.

In 2003, Murphy Environmental was established as a trading division of Murphy Concrete Manufacturing (MCM) Ltd., to serve as the waste management division of the company, with responsibility for all aspects of the management and operation of the facility and compliance with the Waste Licence. We operate a second inert Waste Licence (Reference W0129-02) at Hollywood, Naul, Co. Dublin, through our sister company, MEHL.

MURPHY ENVIRONMENTAL

Murphy Environmental underwent a level of organisational restructuring in 2008, which led to the division of the companies which operate the Gormanston and Hollywood sites. The Murphy Group of companies now operate under the following:

- Murphy Concrete Manufacturing Ltd. (MCM): manages quarrying operations;
- Murphy Environmental: operates the Gormanston facility (W0151-01); Murphy Environmental is a trading division of MCM;
- Murphy Environmental Hollywood Ltd.: operates the Hollywood facility (W0129-02)

OUR EPA WASTE LICENCE


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

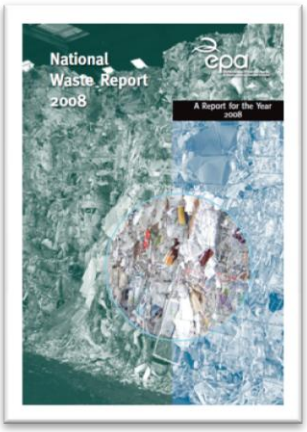
WASTE LICENCE
LANDFILL FOR INERT WASTE

Waste Licence Register Number: 151-1
Licensee: Murphy Concrete Manufacturing Limited
Location of Facility: Sarsfieldstown, Gormanstown, County Meath.

The current Waste Licence for the Gormanston facility has the reference number W0151-01. W0151-01 was issued on the 5th June, 2003 for the operation of a facility for the recovery of inert C&D waste in an active sand and gravel pit so as to restore the site into the surrounding landscape.

A full copy of our EPA Waste Licence is available for inspection at our site office or can be downloaded from the EPA Website (www.epa.ie).

A KEY FACILITY FOR WASTE MANAGEMENT IN IRELAND



Latest EPA figures (*EPA National Waste Report; A Report for the Year 2008*) show that the total quantity of construction and demolition (C&D) waste collected in 2008 was estimated at 13.5 million tonnes (see tables below), a substantial drop of 24% since 2007.

The EPA report states that there continues to be a large discrepancy between the reported collection of C&D waste and its reported disposal and recovery. In 2008, there was a gap of over 3 million tonnes. Local authorities estimate that non-reporting Waste Collection Permit holders collected approximately 58,000 tonnes of C&D waste, while non-reporting Waste Permit holders handled an estimated 477,000 tonnes.

This still leaves a gap of 2.7 million tonnes of C&D waste (Source: EPA). The EPA report states that "such a gap likely reflects a general lack of attention by the C&D industries, and elements of the waste industry serving it, of the necessity to maintain good records and the obligation to provide accurate data to the local authorities annually".

We're proud to say the Murphy Environmental licensed facilities (W0129-02 and W0151-01) offer exemplary waste records and reports to our customers, the EPA, Local Authorities and the lead authorities tasked with management of the waste collection permitting system.

Collection and management of soil and stones fraction of construction and demolition waste, 2008 (EPA, 2009)

Total C&D Waste Collected (tonnes): 13.5 million			
	Recovery (tonnes)	**Disposal (tonnes)**	**Total (tonnes)**
EPA licensed landfill	1,286,320	227,533	1,513,853
Local Authority-permitted sites	7,068,543	1,480	7,070,023
EPA-licensed waste treatment facilities	11,197	0	11,197
TOTAL	**8,366,060**	**229,013**	**8,595,073**

Management of Construction & Demolition waste at Gormanston, 2008

Management	Disposal (tonnes)
Recovery at Gormanston, 2008	350,476
Recovery at EPA licensed landfills nationally, 2008	1,286,320
Percentage Recovery at Gormanston vs. Total C&D Waste Recovered at EPA Landfills, 2008	**27.25%**

OF THE 1.3 MILLION TONNES OF MATERIALS RECOVERED AT EPA-LICENSED LANDFILLS NATIONALLY IN 2008, OVER ONE-QUARTER OF THAT WAS RECOVERED AT MURPHY ENVIRONMENTAL GORMANSTON.

C

A NEW DEPARTURE: AN IRISH SOLUTION TO IRELAND'S HAZARDOUS WASTE

In September 2009, MEHL announced its intention to seek planning permission to develop Ireland's first national facility for the treatment of hazardous ash and other compatible waste streams at the Murphy Environmental Hollywood Ltd. facility. The proposal is in line with policies set out in the Environmental Protection Agency's (EPA) Hazardous Waste Management Plan and the Government's National Development Plan. All additional wastes proposed to be treated at the facility will be non-biodegradable meaning it will not accept food waste and consequently have no odours, no methane, no vermin and no impact on greenhouse gases.

MURPHY ENVIRONMENTAL HOLLYWOOD LTD

Hollywood's strategic location in North Dublin between the two incinerators being developed in Leinster – the Indaver waste-to-energy facility under construction in Carranstown, Co Meath and the Dublin City Council facility planned for Poolbeg, Co. Dublin – makes it a timely and appropriate proposal.

The proposed MEHL development is expected to create more than 50 construction jobs and take 12 months to complete. Once operational, it is anticipated an additional 10 people will be employed directly with further extensive support employment through suppliers.

MEHL General Manager, Patricia Rooney said: "Currently, companies operating here have to export their hazardous waste to landfills on mainland Europe. This makes appropriate and responsible waste management in Ireland expensive. It also runs contrary to EU waste management directives which demand that each Member State must provide for its own waste solutions within its own boundaries."

"Ireland has no national landfill facility for the treatment of ash generated from waste-to-energy facilities, despite the fact that this form of waste is set to increase. This gap must be filled and our proposal is ideally positioned to do so. "

> ***The Hollywood proposal will provide the type of infrastructure we need to allow Ireland to become more competitive while equally ensuring that we offer a sustainable and responsible solution to the waste created here.***

The proposed development is deemed to be 'strategic infrastructure' under Irish planning law, and means that MEHL is required to lodge its planning application directly to An Bord Pleanála, who will, in turn, consult with local and national stakeholders including Fingal County Council and prescribed bodies. Public participation is an important part of the planning process. During 2010, we will be developing a dedicated website solely for the purpose of making all planning application documentation freely available.

D RESTORATION AT GORMANSTON 2009

Under the Waste Management Act (1996), waste activities can be classified as waste disposal or waste recovery, within which there are a number of classes of activity. The Waste Licence (Ref. W0151-01) lists the activities which Murphy Environmental is licensed to carry out at Gormanston:

DISPOSAL

Class 1: Deposit on, in or under land (including landfill)

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

RECOVERY

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

WASTE TYPES ACCEPTED

Only inert waste is acceptable at Gormanston. Inert waste means waste that does not undergo any significant physical, chemical or biological transformations**.**

Inert waste will **not**:

- Dissolve, burn or physically or chemically react
- Biodegrade (decompose)
- Adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health.
- Generate a leachate (runoff) which could cause pollution or endanger the quality of surface water and/or groundwater.

The majority of the material accepted at Gormanston is comprised of soils and stones and other construction- or demolition-type material.

ONLY INERT WASTE IS ACCEPTABLE AT GORMANSTON. INERT WASTE MEANS WASTE THAT DOES NOT UNDERGO ANY SIGNIFICANT PHYSICAL, CHEMICAL OR BIOLOGICAL TRANSFORMATIONS.

WASTE ACCEPTANCE PROCEDURES

We have agreed detailed Waste Acceptance Procedures with the EPA, to ensure only appropriate clean and inert wastes are accepted at the site.

WASTE COLLECTION PERMITS

All hauliers delivering waste to site must hold a valid Waste Collection Permit. Anyone collecting waste is required by law to hold a valid Waste Collection Permit. We maintain a detailed on-site register of Waste Collection Permits for all vehicles delivering waste to our facilities.

WEIGHBRIDGE SOFTWARE

Murphy Environmental operates specially-designed computer software to manage waste records.

METHODS OF WASTE DEPOSITION

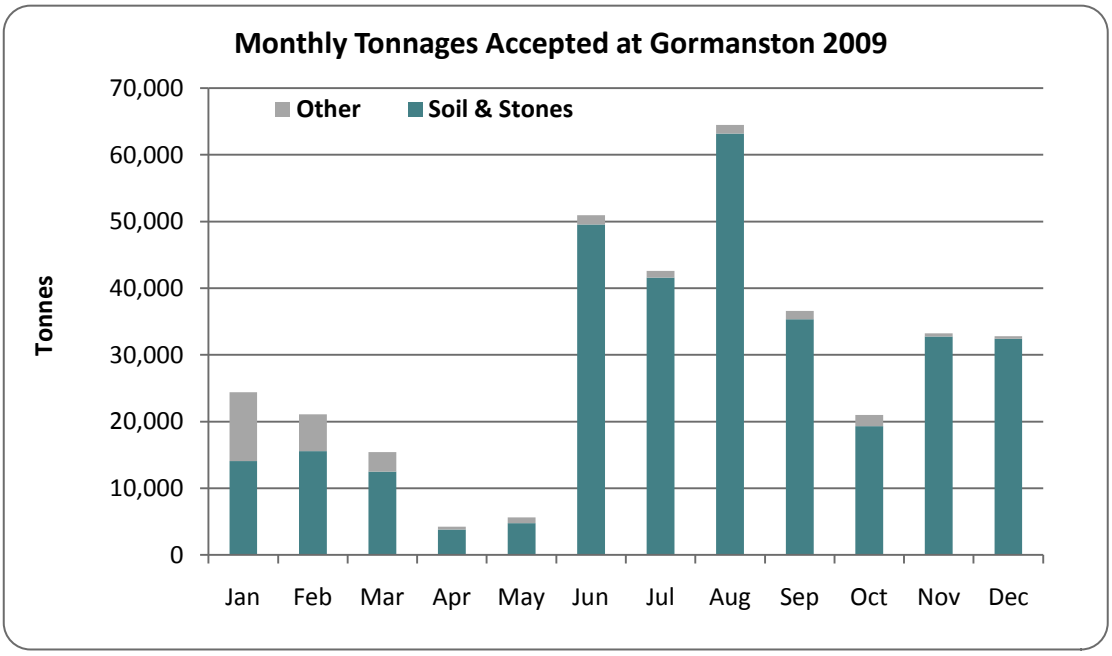
Inert waste material is brought to the site in trucks from construction/ demolition or soil removal sites. Material is deposited directly into the active restoration area, as directed by the weighbridge operator and banksman.

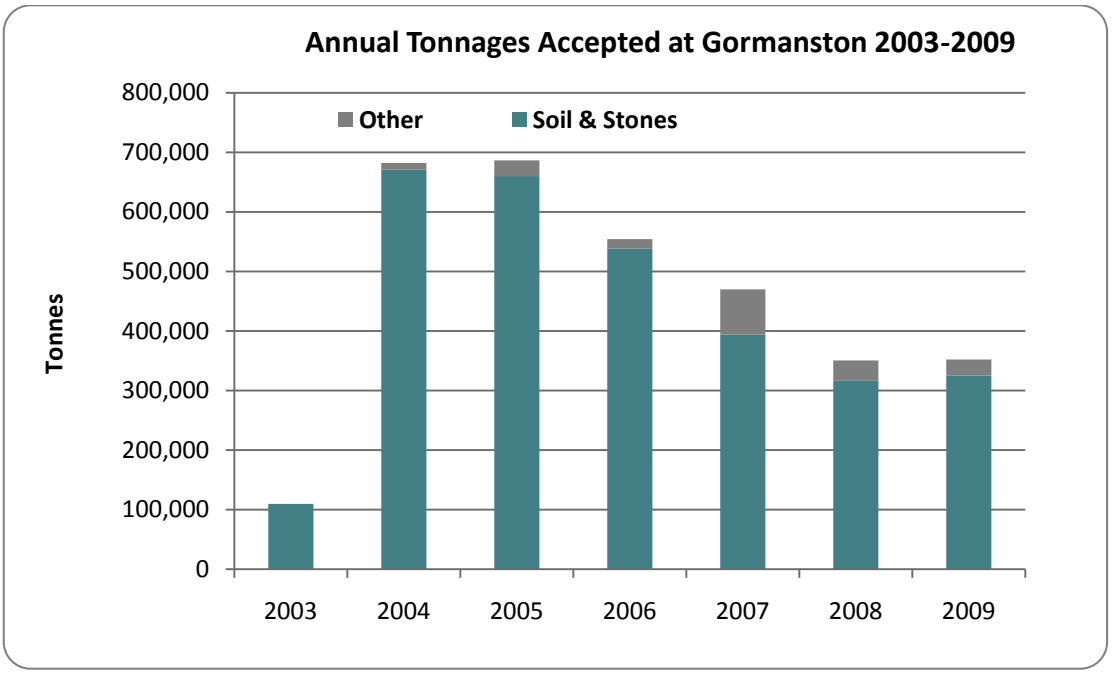
WASTE ACCEPTANCE 2009

A summary of waste accepted in 2009, classified by European Waste Catalogue (EWC) code, is presented in the table below. It can be seen that *Soils & Stones* were the largest contributor to the waste accepted at the facility.

OVER 352,000 TONNES OF INERT WASTE WAS ACCEPTED FOR RECOVERY AT GORMANSTON IN 2009.

Material Type	EWC Code	Tonnes 2003	Tonnes 2004	Tonnes 2005	Tonnes 2006	Tonnes 2007	Tonnes 2008	Tonnes 2009
Stone, Rock & Slate	17 05 04 (SL)	-	806	39	81	-	217	-
Recovered Gravel & Crushed Rocks	17 05 04 (RG)	-	-	19,405	2,937	69,956	8,192	11,725
Natural Waste Sand & Clay	17 05 04 (NS)	-	72	-	5,200	2,232	197	808
Concrete	17 01 01	-	2,538	6,393	7,530	3,348	23,544	14,671
Bricks	17 01 02	-	7,286	-	15	-	-	-
Mixture of Concrete, Bricks, Tiles & Ceramics	17 01 07	-	-	256	31	62	1,019	16
Soil & Stones	17 05 04	109,734	670,758	660,294	538,698	394,196	317,307	325,099
Mixed C&D	17 09 04	-	555	275	-	-	-	-
Annual Total Tonnage		**109,734**	**682,015**	**686,662**	**554,492**	**469,794**	**350,476**	**352,319**
Total Tonnage Accepted To-date					**3,205,498**			


Monthly Tonnages Accepted at Gormanston 2009
Tonnes
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Other
Soil & Stones
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Annual Tonnages Accepted at Gormanston 2003-2009
Tonnes
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Other
Soil & Stones
2003
2004
2005
2006
2007
2008
2009

PROPOSED RESTORATION OF THE SITE AND TIMESCALE OF SUCH DEVELOPMENT

The restoration and aftercare of the facility shall be carried out in accordance with the Restoration and Aftercare Management Plan approved by the EPA.

RESTORATION OF COMPLETED PHASES

The Gormanston site is being restored based on a zonation system of Zones 1 to 8.

- **ZONE 1** has been used for the storage of pipes by Bord Gais but this activity ceased at year-end 2007.
- **ZONES 2 to 4** are areas of historical waste deposition. These areas were capped and grassed during 2005. Zones 1 and 4 were subject to a gas pumping trial, which was reported on in 2006.
- **ZONE 5** is filled and is to be capped and grassed.
- **ZONE 6** is the current tipping area for incoming material and will remain so through 2009.
- **ZONE 7** is the location of the Cemex batching plant (not in operation).
- **ZONE 8** will be developed as a C&D waste recovery area. There will also be capacity for filling.

SITE SURVEY SHOWING EXISTING LEVELS OF THE SITE

An updated topographical survey was submitted to the Agency in September 2009. A copy is available in the Site Office.

SITE DEVELOPMENT WORKS 2009

No significant site development works took place during 2009, other than ongoing restoration activities.

FINANCIAL PROVISION

Murphy Environmental has established a Liabilities and Restoration Fund for the site, in consultation and agreement with the Agency.

During 2008, and due to the separation of the Murphy group of companies which operates the Gormanston and Hollywood facilities, separate and independent Liabilities Risk and Restoration & Aftercare Funds were put in place, to address requirements for each of the sites on its own terms.

The photograph below shows grass-cutting by a local farmer in progress at the restored part of our Gormanston site – the grass will be used to make hay back at his farm.

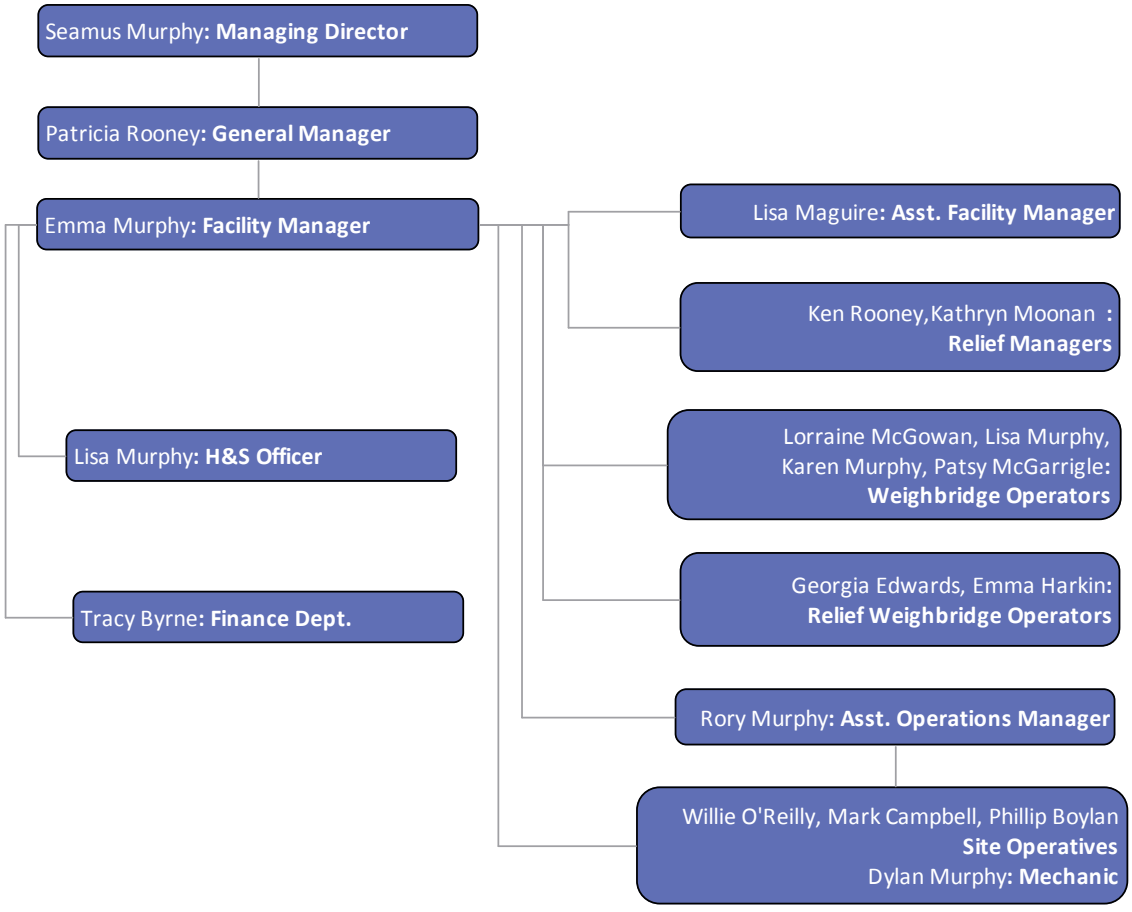
E OUR MANAGEMENT SYSTEMS

MANAGEMENT TEAM

Murphy Environmental has dedicated management teams at its Gormanston and Hollywood facilities. Patricia Rooney is the General Manager of the company, and Seamus Murphy is the Managing Director.

The Facility Manager at Gormanston is Emma Murphy and the Assistant Facility Manager is Lisa Maguire. They are supported by an office team, who have responsibility for operating the weighbridge and office and data management duties, and an operations team, who direct and control incoming vehicles in restoration areas.

The company is further supported by its consultant teams.



ENVIRONMENTAL MANAGEMENT SYSTEM

The Gormanston site was the second privately-operated landfill in Ireland (Murphy Environmental Hollywood Ltd being the first) to achieve accreditation to ISO14001, the international standard for Environmental Management Systems, in 2005.

PROCEDURES/EMS DOCUMENTATION DEVELOPED, 2009

A number of new procedures and other EMS documentation were developed during 2009, as follows:

- **P4.7.C/ERP Own Drivers** – An Emergency Response Procedure for our own drivers, kept in their cabs
- **F6.0.A/APPENDIX CSA** – Appendix to our Customer Service Agreement
- **F6.1.D/CREDITORSREC** – Creditors Reconciliation
- **F6.4.A/QUOTATION** – A Quotation form for customer
- **F8.0.E/QTR CHECK** – Quarterly H&S Site Inspection

ENVIRONMENTAL OBJECTIVES AND TARGETS

A core requirement of our EMS is the setting and reviewing of environmental Objectives and Targets (O&T), structured around the overall goal of continual environmental improvement.

Our O&T Register is an invaluable tool to help us manage our goals for the site. We use it to strategically plan for issues for the forthcoming year, and it serves as a reminder of key target dates.

The O&T schedule which was included in the 2008 AER is presented overleaf. An indication of progress against targets is given; where targets were not achieved in 2009, reasons for this are discussed overleaf. A number of additional targets which were included in the register over the course of the year are also listed.

Objectives & Targets 2009

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	PROGRESS
Submit AER to the Agency			◎										👍
Carry out bi-annual noise monitoring and Noise at Work monitoring					◎				◎				👍
Carry out daily meteorological monitoring	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	👍
Carry out quarterly dust monitoring			◎			◎			◎		◎		👍
Carry out quarterly leachate & groundwater monitoring		◎		◎			◎			◎			👍
Carry out bi-annual surface water monitoring				◎						◎			👍
Install computers in garages for improved upkeep of records				◎									👎 [1]
Emergency Response Procedure drills			◎										👍
Seed and grass Zone 5						◎							👎 [2]
Bund integrity testing at Cemex								◎					👎 [3]

Notes on 2009 Targets Unachieved:

[1]: No longer deemed a requirement as garage-related records are retained in the Site Office

[2]: Carried forward to 2010

[3]: No longer a requirement as this fuel storage area is no longer in use

Key:

◎ = Target

👍 = Achieved 2009

👎 = Not Achieved 2009

Objectives & Targets 2010

The table below outlines the targets set by Murphy Environmental for the Gormanston facility for 2010.

Objectives & Targets 2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Submit AER to the Agency			◎									
Carry out bi-annual noise monitoring and Noise at Work monitoring					◎				◎			
Carry out daily meteorological monitoring	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Carry out quarterly dust monitoring			◎			◎			◎		◎	
Carry out quarterly leachate & groundwater monitoring		◎		◎			◎			◎		
Carry out bi-annual surface water monitoring				◎						◎		
Emergency Response Procedure drills			◎									
Seed and grass Zone 5						◎						

HEALTH & SAFETY IN THE WORKPLACE

FIRST AID BAGS

First aid bags are installed at three strategic locations on each site: one in the offices, one in the garage/mobile mechanic's unit, and one located with a machine driver. Their positioning means that, in the event of an accident at any point on the site, a First Aider and a first aid bag can reach the victim within a very short period of time.

DEFIBRILLATOR

A defibrillator machine is installed in both the Gormanston and Hollywood site offices, owing to the high numbers of customers and visitors moving through each site on a daily basis. The defibrillator is normally used immediately following a cardiac arrest, to restart the heart rhythm. 11 of our staff have received accredited training in the use of the defibrillator.

PERSONAL ALARM SYSTEM

All site staff has been issued with personal alarms and air foghorns. Visitors and consultants involved in site work are also issued with such alarms.

OCCUPATIONAL NOISE MONITORING

A Noise at Work survey was carried out at Gormanston during June 2009. The purpose of the survey was to determine if any of our operatives were exposed to excessive noise levels related to working with, at or near heavy equipment or machinery. The results of the survey indicated that, within most of the cabs of the vehicles, the Peak Action Level was not exceeded.

Noise exposure levels measured within the Komatsu Dozer were reported as having the potential to exceed the Action Level and it was recommended by the noise consultants that hearing protection be supplied to the dozer operator.

The recommendations for the crusher units and the washer unit were to ensure the continued use of hearing defenders for prolonged working at these locations. Murphy Environmental maintained its policy of issuing hearing defenders to all operators of heavy vehicles/equipment during 2009.

SAFEPASS TRAINING 2009

18 staff members attained Safepass accreditation during April-May 2009.

H&S INDUCTION DVD

Murphy Environmental undertook the production of a Health & Safety and general company and site induction DVD in 2007, which is used for training of all new staff.

STAFF TRAINING 2009

Our company training and conference room, located at Gormanston, was opened in June 2006. This includes a fully integrated computer system, ceiling-mounted projector and touch-screen/whiteboard. This resource offers us excellent facilities for internal staff training and allows external trainers to deliver their courses at our site offices.

Personal training files for all staff are securely retained in the training room, where staff can keep notes and records of training they have received, and where copies of training certificates are retained.

OVERVIEW OF TRAINING RECEIVED BY MURPHY ENVIRONMENTAL STAFF IN 2009

At Murphy Environmental, training of new staff and ongoing training for existing staff is emphasised at each stage of an employee's career.

All staff employed by Murphy Environmental has a foundation level of waste management knowledge. The FÁS National Waste Management Training programme has been completed by all Facility Managers and Assistant Facility Managers in the company.

In addition to management qualifications obtained from external organisations, a strong emphasis is placed on internal training at all levels in the company, and records of all such training events are retained on site.

Training Completed 2009

Month	Training Carried Out	Training Provider	Employees Trained
March	Payroll Training	Internal	1. Lisa Murphy
April	Safepass	Fás	1. John McGillvary 2. Tommy Hamilton 3. Peter Jones 4. Philip Boylan 5. Davy Nugent 6. Brian Campbell 7. Willie Reilly
May	Safepass	Fás	1. Emma Murphy 2. Lisa Murphy 3. Rory Murphy 4. Michael Murphy 5. Mark Campbell 6. Derek Mooney 7. Joe Monks 8. Georgia Edwards 9. Elaine Townley 10. Pat Byrne 11. Gerard Thompson
June	Human Resources	Seminar	1. Ken Rooney
	Anaerobic Digestion	Site Visit	1. Ken Rooney
	Energy from Waste facility (Europe)	Site Visit	1. Patricia Rooney 2. Ken Rooney
Sept	World Net Credit Card Training	Internal	1. Patricia Rooney 2. Emma Murphy 3. Lisa Maguire 4. Kathryn Moonan 5. Lisa Murphy 6. Patsy McGarrigle 7. Karen Murphy 8. Lorraine McGowan 9. Georgia Edwards 10. Emma Harkin 11. Tracy Byrne
	Loading Shovel	QSCS[1]	1. Mark Campbell 2. Tommy Hamilton 3. William O'Reilly
	Hazardous & MSW Waste to Energy facilities; Hazardous & non-hazardous waste landfills (Europe)	Site Visit	1. Patricia Rooney 2. Ken Rooney

[1] Quarry Skills Certification Scheme

Training Completed 2009 (continued)

Month	Training Carried Out	Training Provider	Employees Trained
Oct	Tabs & Tables Excel Training	Kenetic Computer Training	1. Emma Murphy 2. Lisa Murphy
	Sage Training	Internal	1. Lisa Murphy 2. Lorraine McGowan 3. Georgia Edwards
	Mail Merge and Labels	Kenetic Computer Training	1. Karen Murphy
	360 Excavator	QSCS	1. Rory Murphy 2. Pat Byrne 3. Mark Campbell
	Artic Dump Truck	QSCS	1. Rory Murphy 2. Pat Byrne 3. Mark Campbell
	EPA Waste Workshop 2009 (Hodson Bay Hotel, Athlone)	EPA	1. Patricia Rooney 2. Ken Rooney
Nov	Tractor Dozer	QSCS	1. Rory Murphy 2. Tommy Hamilton 3. Mark Campbell 4. John McGillvary

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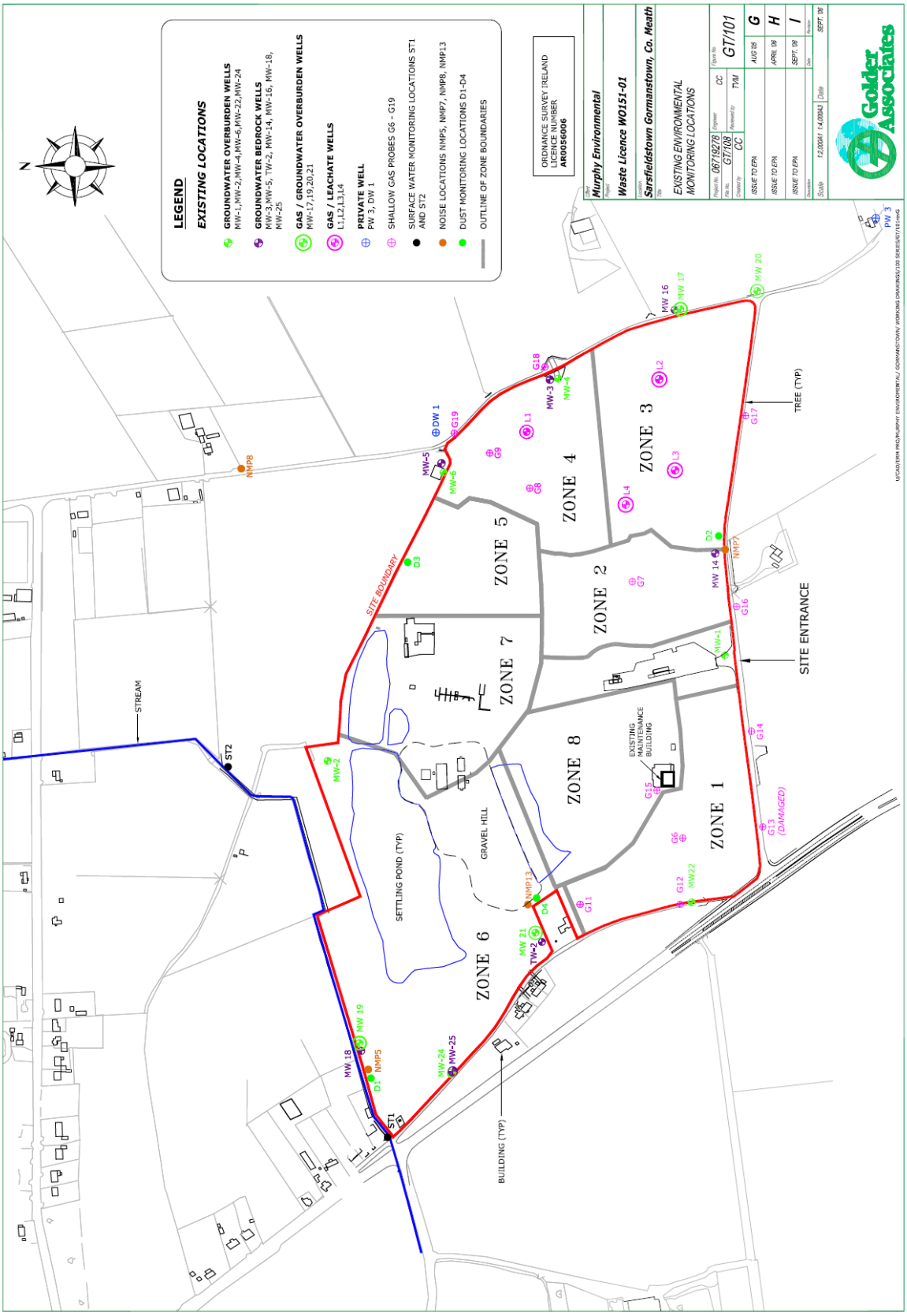
MONITORING AND MEASUREMENT



MONITORING REQUIREMENTS

Murphy Environmental is required to conduct regular monitoring to ensure that no environmental impact is occurring as a result of site operations. All monitoring reports are submitted to the EPA.

Monitoring of noise, dust, surface water, groundwater, leachate and meteorology is conducted throughout the year.

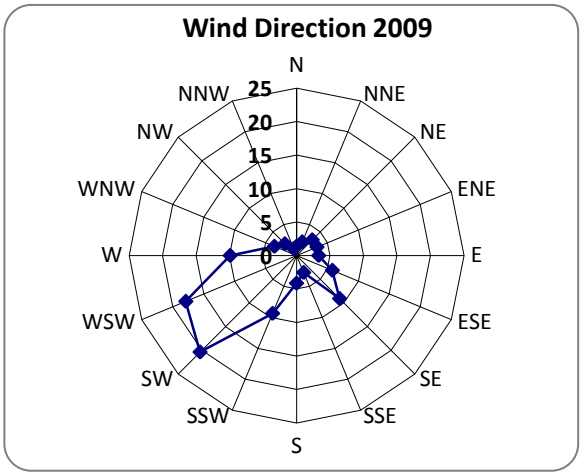
METEOROLOGICAL DATA

Meteorological data was obtained from the meteorological station situated at Dublin Airport. The parameters obtained were: precipitation, temperature, wind speed and direction, relative humidity and atmospheric pressure (as per Schedule D.5 of the Waste Licence).

WIND DIRECTION

Daily wind data and all meteorological data required under the licence are retained on site.

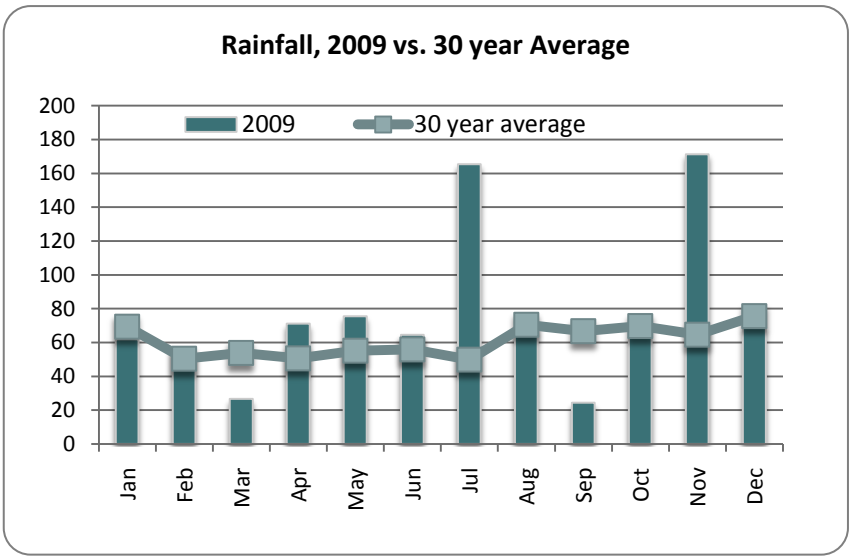
The wind rose for 2009 indicates that winds were mainly from a south-westerly/west-south-westerly direction.

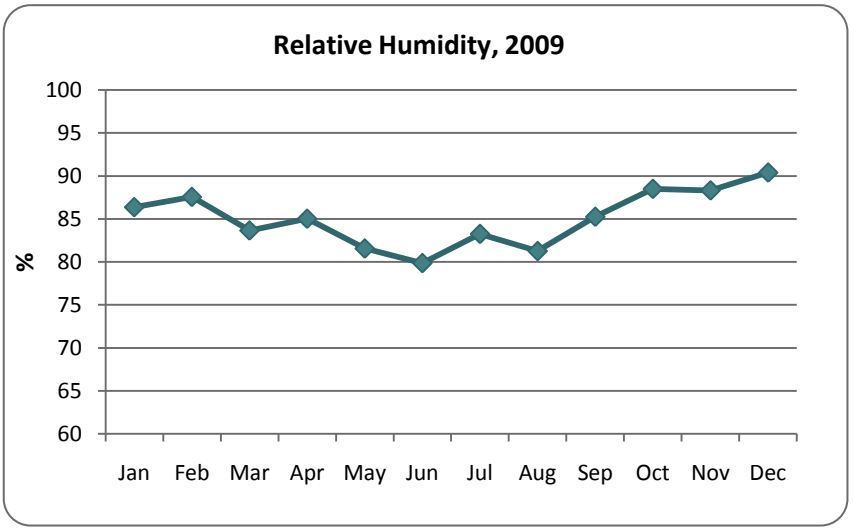


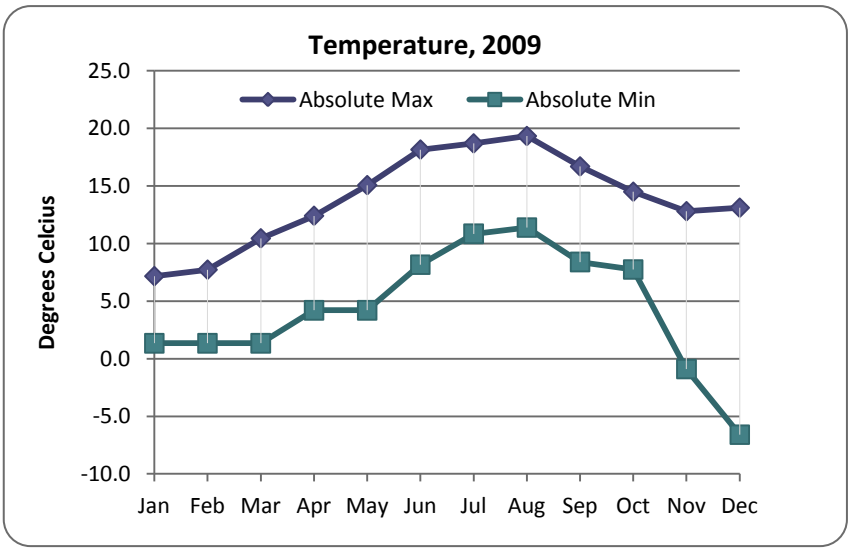
RAINFALL

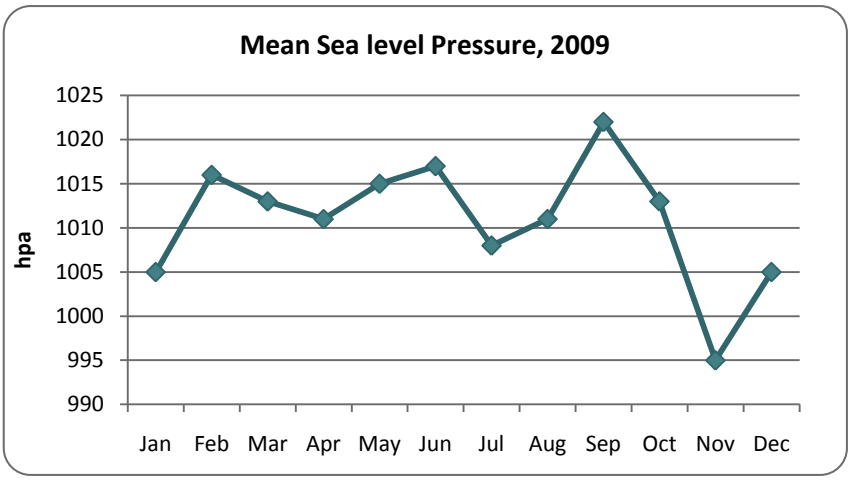
The total rainfall for 2009 was 918mm.

This is significantly higher than the 30-year average (733mm); furthermore there were significant variations within individual months, e.g. July 2009 and November 2009 rainfall amounts were approximately three times the 30-year average. On the contrary, March and September 2009 were relatively dry months.


Rainfall, 2009 vs. 30 year Average
2009
30 year average
200
180
160
140
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Relative Humidity, 2009
%
100
95
90
85
80
75
70
65
60
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Temperature, 2009
Absolute Max
Absolute Min
Degrees Celcius
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec



WATER BALANCE EQUATION

The water balance equation is estimated as follows:

- Annual Rainfall, 2009 = 918mm
- Annual Evapotranspiration, 2009 = 464mm

It is assumed that water losses during operations will be numerically approximately 50% of evapotranspiration from vegetated surfaces, i.e. 232 mm/year.

- Effective Rainfall = 918mm – 232mm = 686mm/year

The surface area of Zones 1 to 6 at the facility is 249,000m^2. Therefore the amount of recharge within Zones 1 to 6 is estimated as:

- 249,000 m^2 x 0.686m/year = 170,814 m^3/year.

BUND TESTING

A bund integrity test was scheduled to be carried out at the Cemex plant area during 2009; however this was not completed as the fuel storage area is no longer in use.

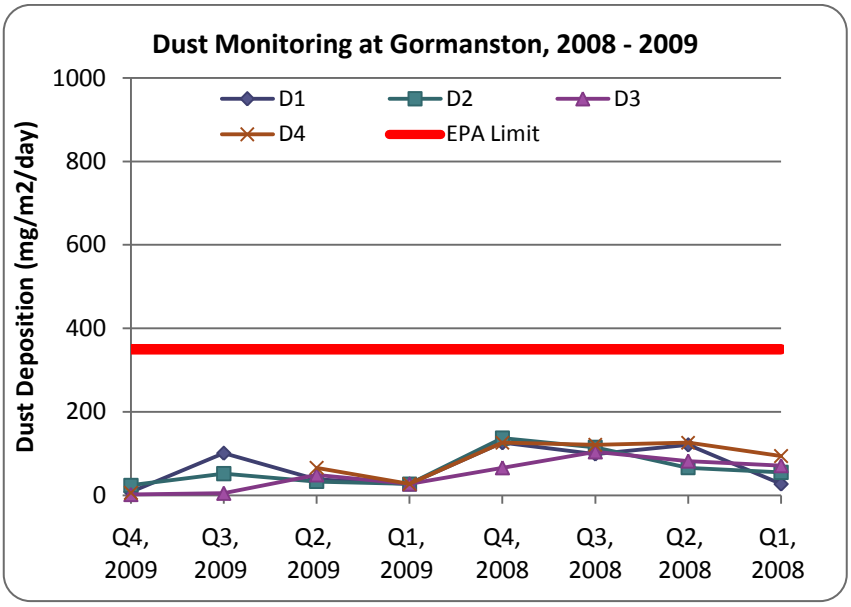
DUST MONITORING

Murphy Environmental must monitor dust levels at four locations (D1, D2, D3 and D4) once per quarter. Dust emission limits are set in Schedule C.2 of the licence.

Dust is measured using a Bergerhoff dust gauge. This is exposed over a 30-day period to collect bulk dust deposition. The gauge consists of a gauge bottle supported on a stand of approximately 1.5 metres high. The samples collected are then transferred to a laboratory for gravimetric (weight) analysis to determine the concentration of deposit material in each gauge bottle.

DUST MONITORING RESULTS, 2009

Four dust surveys were conducted at the Gormanston site during 2009. Dust management techniques such as dampening of roads and hardstand areas using the water bowser, sprinklers, wheelwash and roadsweeper are used by Murphy Environmental on an ongoing basis to manage and minimise dust levels.



Dust monitoring results were significantly below the licence limit for dust during all monitoring rounds in 2009, i.e. the compliance rate for dust monitoring was 100% in 2009.

NOISE MONITORING

Murphy Environmental must monitor noise levels at 4 locations (NMP5, NMP7, NMP8 and NMP13) twice per annum (Schedule D.4). Noise emission limits are set in the licence (Schedule C.1). Noise is monitored using a specialist noise meter.

NOISE MONITORING RESULTS, 2009

The biannual noise survey was conducted in June and July 2009. The results from the noise survey indicated that noise levels exceeded the EPA daytime limit of 55 dB(A) and the night-time lime of 45 dB(A) at a number of monitoring points; however the dominant noise source at all locations was road traffic along the local road network, and site operations at the Murphy Environmental facility were not audible at any of the locations.

The Murphy Environmental facility was not operating during the night-time survey period and did not contribute to the noise environment in the area during this period.

> ***In light of the results of the noise surveys, it was concluded that the Murphy Environmental facility at Gormanston was in compliance with the noise limits specified in the Waste Licence.***

Noise Monitoring at Gormanston 2009

Location	Daytime Noise LA_{EQ} dB(A)			Night-time Noise LA_{EQ} dB(A)		
	Q2, 2009	Q3, 2009	EPA Limit	Q2, 2009	Q3, 2009	EPA Limit
NMP5	60	61	**55**	60	64	**45**
NMP7	52	54	**55**	41	56	**45**
NMP8	51	53	**55**	33	47	**45**
NMP13	50	59	**55**	44	51	**45**

NMP5: located close to the R132 roadway beyond the north-western boundary of the facility

NMP7: located along a local roadway which leads east from the R132 roadway at a point close to the main entrance

NMP8: located along a local roadway to the northeast of the facility

NMP13: located close to a dwelling, which overlooks the site from beyond the south-western boundary of the facility

SURFACE WATER MONITORING

Surface water monitoring was carried out during Quarters 2 and 4, 2009. Samples could not be obtained from ST-2 during Quarter 2, 2009 monitoring round as it was found to be dry.

In Quarter 1, 2009 breaches of limit values occurred in ST-1 for Chemical Oxygen Demand (COD) and Total Suspended Solids. Total Suspended Solids also breached the Salmonid Water Regulations in ST-2 in Quarter 4, 2009. BOD and COD were non-compliant with the Salmonid Water Regulations at ST-2 in Quarter 4.

GROUNDWATER MONITORING

Murphy Environmental must monitor groundwater at:

- 17 monitoring boreholes: MW-1, -2, -3, -4, -5, -6, -14, -16, -17, -18, -19, -20, -21, -22, -24, -25 and TW2
- 1 private well: PW3 (this is only point locally from which water may be extracted for human consumption)
- 4 leachate wells: L1, L2, L3, and L4 (L1, L2 and L3 were dry during all sampling rounds in 2009).

The water level in each borehole is recorded using a "dip meter". During sampling it was borne in mind that stagnant groundwater in the well casing and in close proximity to the borehole is not representative of the general groundwater at any given location.

To ensure that the groundwater samples extracted from the monitoring boreholes were representative of the water held in the underlying subterranean strata and not stagnant water held in the borehole casings, evacuation of the boreholes was undertaken before sampling was carried out.

GROUNDWATER MONITORING RESULTS, 2009

Groundwater monitoring was conducted during Quarters 1, 2, 3 and 4 of 2009. Results were compared against EU Drinking Water Regulations.

A total of approximately 70 parameters were tested at each of the 18 groundwater monitoring locations during 2009.

> ***During 2009, a total of over 1,250 individual analytical tests were conducted on groundwater samples.***

The table below provides an indication of the overall level of compliance for all of the parameters measured quarterly during 2009, at all groundwater monitoring locations in and around the site.

The vast majority complied with relevant legislation and guideline limits. If there is a breach of guideline limits, Murphy Environmental must report this as an 'incident' to the EPA.

GROUNDWATER 'INCIDENTS' 2009

Murphy Environmental has continually reported a number of parameters to the Agency as incidents since monitoring commenced in 2003.

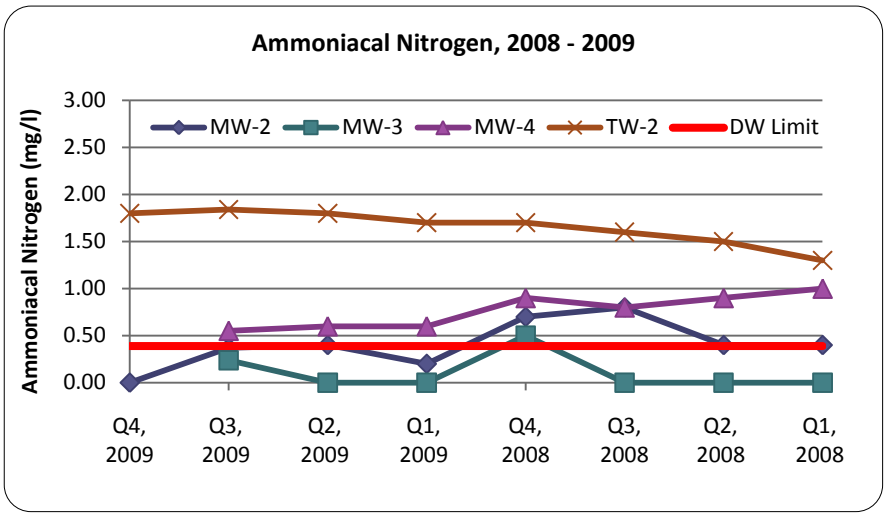
> ***The overall 2009 compliance rate for quarterly monitoring parameters in groundwater boreholes was 98% (compared against limits prescribed in the Drinking Water Directive 98/83/EC).***

Compliance with Quarterly Monitoring Requirements in Groundwater Boreholes, 2009

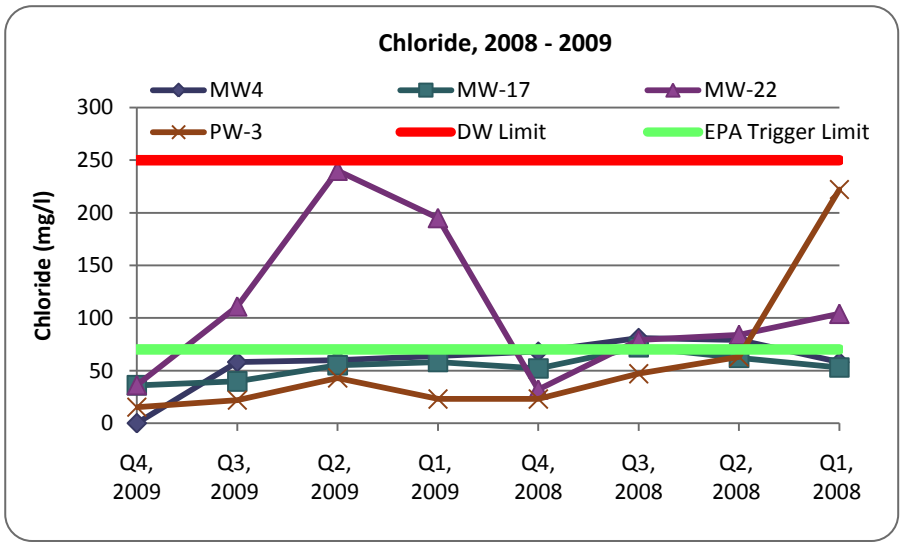
Quarterly Groundwater Parameter	Total No. of tests*	2009 Results vs. Drinking Water Limit Values		% Compliance
		In Compliance	Breached Limit Values	
Ammoniacal Nitrogen	72	63	9	**87.5 %**
Chloride	72	72	0	**100 %**
Electrical Conductivity	72	72	0	**100 %**
pH	72	72	0	**100 %**
Dissolved Oxygen	72	72	0	**100 %**
Total Organic Carbon	72	72	0	**100 %**
Phenols	72	72	0	**100 %**
Sulphate**	54	53	1	**98 %**

* 18 Boreholes x 4 Sampling Rounds

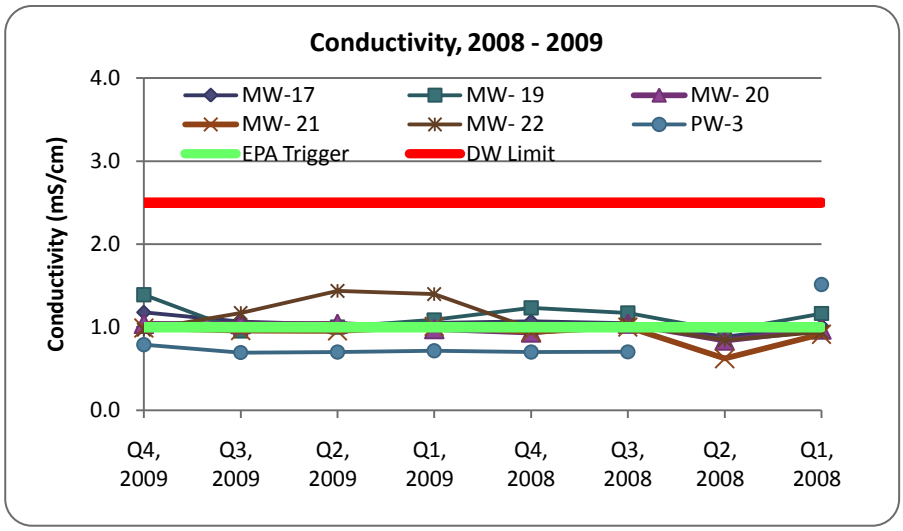
** Sulphate was monitored during Q2 – Q3



THE 2009 COMPLIANCE RATE FOR AMMONIACAL NITROGEN WAS **87.5%** (COMPARED AGAINST DRINKING WATER REGULATION LIMITS)



THE 2009 COMPLIANCE RATE FOR CHLORIDE WAS **100%** (COMPARED AGAINST DRINKING WATER REGULATION LIMITS)



THE 2009 COMPLIANCE RATE FOR CONDUCTIVITY WAS **100%** (COMPARED AGAINST DRINKING WATER REGULATION LIMITS)

Please note that charts above depict only monitoring points which breached EPA trigger levels or Drinking Water Directive limits; all other monitoring points complied with prescribed limit values.

AMMONIACAL NITROGEN

Ammoniacal Nitrogen exceeded guideline limits in MW-2, MW-4, MW-21 and TW-2 during 2009. This is thought to have been associated with agricultural or sewage sources in the vicinity of the site. This trend was also observed in 2008 as is shown in the graph.

CHLORIDE

The EPA Trigger level for chloride for the site is 70 mg/l. The levels recorded at MW-22 monitoring well were in exceedance of this value during some of the 2009 monitoring rounds but were within the limit set by the Drinking Water Directive of 250 mg/l.

The remaining monitoring wells were in compliance with both the Drinking Water Regulation limit and the EPA Trigger Level.

Chloride exists in all natural waters and has no direct health or sanitary significance.

CONDUCTIVITY

The EPA Trigger level for conductivity for the site is 1.0 mS/cm. The levels recorded at 5 monitoring wells were in exceedence of this value during some of the 2009 monitoring rounds but were within the limit set by the Drinking Water Directive of 2.5 mS/cm.

The remaining 13 boreholes were in compliance with both the Drinking Water Regulation limit and the EPA Trigger Level. Conductivity is a measure of the mineral salt content of water and has no direct health or sanitary significance.

SULPHATE

The EPA trigger level for sulphate for the site is 140 mg/l. The levels recorded at MW-17 and MW-19 were in exceedance of this value during some of the 2009 monitoring rounds.

Sulphate exceeded the Drinking water regulations during Q4, 2009 at MW-19. Sulphate is naturally-occurring in sedimentary rock. The high levels may be due to locally deposited non-native soil.

The remaining monitoring wells were in compliance with both the Drinking Water Regulation limit and the EPA Trigger Level.

TOTAL & FAECAL COLIFORMS

Microbiological monitoring of the groundwater is required annually; this was carried out at the site during Quarter 2, 2009. During Quarter 2, as can be seen from the table below, results for Faecal and Total Coliforms were found to be at levels above Drinking Water Regulation limits in certain boreholes.

It is likely that the presence of total and faecal coliforms can be attributed to agricultural or sewage contamination in the locality as landfill waste is not usually associated with this type of contamination.

Coliform Analysis in Groundwater Boreholes, 2008-2009

Bore-hole Ref.	Faecal Coliforms (cfus/100ml)			Total Coliforms (cfus/100ml)		
	Q2, 2009	Q2, 2008	DW Limit	Q2, 2009	Q2, 2008	DW Limit
MW-1	1	<1	0	1	<1	**0**
MW-2	8	<1	0	12	<1	**0**
MW-3	<1	1	0	<1	2,500	**0**
MW-4	<1	<1	0	900	2	**0**
MW-5	8	36	0	1,800	2,100	**0**
MW-6	<1	<1	0	<1	500	**0**
MW-14	<1	<1	0	<1	1	**0**
MW-16	<1	<1	0	28	200	**0**
MW-17	<1	<1	0	100	1	**0**
MW-18	<1	<1	0	<1	2	**0**
MW-19	1	1	0	100	7	**0**
MW-20	<1	<1	0	<1	<1	**0**
MW-21	<1	<1	0	<1	1	**0**
MW-22	<1	14	0	<1	500	**0**
MW-24	9	<1	0	9	1	**0**
MW-25	<1	<1	0	<1	25	**0**
PW-3	<1	4	0	<1	1	**0**
TW-2	<1	<1	0	<1	30,000	**0**

OTHER GROUNDWATER MONITORING NON-COMPLIANCES

Parameter	Loca-tion	Concen-tration (mg/l)	Limit Value (mg/l)	Quarter, 2009	Possible Causes
Manganese	MW-1	0.31	0.05	Q2	The occurrence of manganese is presumed to be associated with the geology of the quarry and the surrounding bedrock. Manganese was detected up-gradient and down-gradient of the site, as well as in on-site analysis.
	MW-2	0.41	0.05	Q2	
	MW-4	0.92	0.05	Q2	
	MW-18	0.11	0.05	Q2	
Iron	MW-18	0.25	0.2	Q2	Iron is present naturally in soil and rock. It does not pose a health hazard to humans and the principal consideration is in relation to the colour of the water.
Sodium	MW-22	77	50	Q2	Sodium is always present in natural waters and it is an abundant constituent of rocks and soils.

LEACHATE MONITORING

Leachate is formed when water passes through waste in a landfill cell. Samples could only be obtained from L–4 as there was no leachate present at the other leachate monitoring points.

There were elevated levels of Ammoniacal Nitrogen and Iron in the L-4 leachate. The Surface Water Regulation limits are used for comparison purposes due to the fact that there are no trigger levels for leachate.

No leachate was removed off-site during 2009.

ESTIMATED INDIRECT EMISSIONS TO GROUNDWATER

Based on the area of Zones 1 to 4, effective rainfall and leachate monitoring data for 2009, the cumulative and indirect emissions to groundwater were estimated at 7.7 tonnes per annum.

LANDFILL GAS MONITORING

The inert material deposited at Gormanston will not generate landfill gas; however, landfill gas is monitored at Gormanston because of historic waste deposits on site.

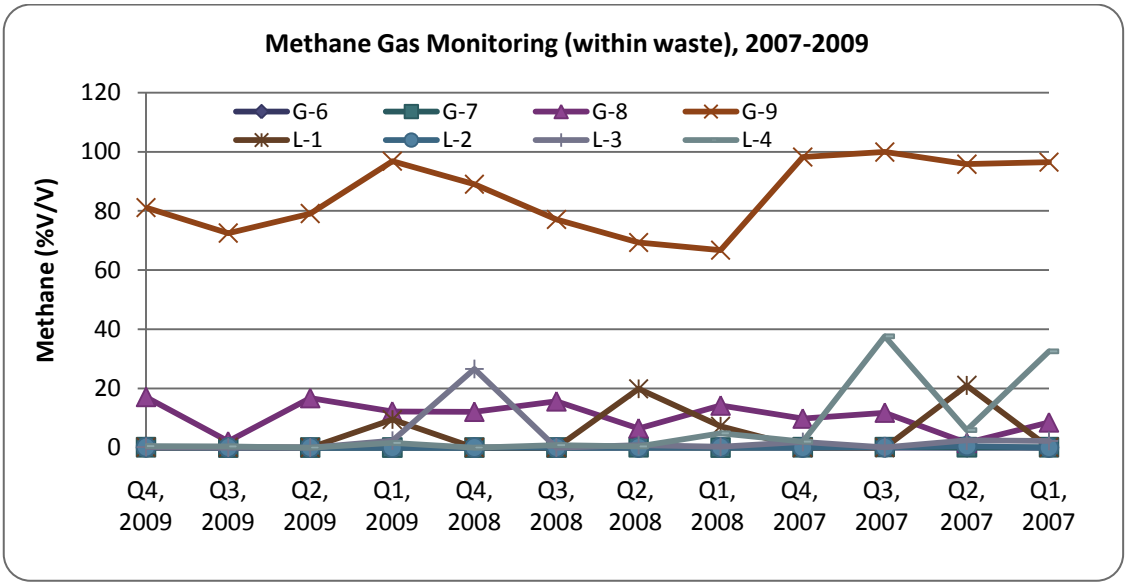
Landfill gas is measured at 20 monitoring wells on the Gormanston site (within the waste: G-6, G-7, G-8, G-9, G-11, L-1, L-2, L-3 and L-4; outside waste: G-12, G-14, G-15, G-16, G-17, G-18, G-19, MW-17, MW-19, MW-20 and MW-21).

GAS MONITORING RESULTS, 2009

The level of landfill gas is monitored on a quarterly basis and levels are compared against limits set down in Schedule C of the Waste Licence. Methane (CH_4) and Carbon Dioxide (CO_2) results are summarised in the tables opposite.

In monitoring locations outside waste, methane was recorded consistently at, or close to, 0% v/v. During Quarter 4, 2009, methane was detected at a low level of 0.1% v/v in the all of gas wells. The licence specifies a CH_4 emission limit of 1% v/v in any building on or adjacent to the facility. Carbon dioxide levels recorded above 1.5% v/v at monitoring locations outside waste or at perimeter locations were reported to the EPA as incidents. Such incidents were recorded at G-14, G-17, G-19, MW-20 and MW-21 during 2009.

Methane results at monitoring locations within the waste were variable during 2009 (see chart). G-9 showed consistently high methane levels during the year.



Methane Monitoring at Perimeter Gas Wells, 2009

Monitoring Location	2009 Methane Levels (%v/v)				Limit Value (%v/v) [2]
	Q1	Q2	Q3	Q4 [3]	
G-12	0	0	0	0.1	1.0
G-14	0	0	0	0.1	1.0
G-15	0	0	0	0.1	1.0
G-16	0	0	0	0.1	1.0
G-17	0	0	0	0.1	1.0
G-18	0	0	0	0.1	1.0
G-19	0	0	0	0.1	1.0
MW-17	0	0	0	0.1	1.0
MW-19	0	0	0	0.1	1.0
MW-20	0	0	0	0.1	1.0
MW-21	0	0	0	0.1	1.0

Carbon Dioxide Monitoring at Perimeter Gas Wells, 2009

Monitoring Location	2009 Carbon Dioxide (% v/v)				Limit Value (%v/v) [2]
	Q1	Q2	Q3	Q4	
G-12	3.8	7.1	7.1	5.9	1.5
G-14	1.1	1.4	**4.8**	**4.2**	1.5
G-15	0	0	0	0.3	1.5
G-16	0	1	0.6	0.7	1.5
G-17	1.4	**1.9**	**2.6**	**4.3**	1.5
G-18	0	0	0	0.2	1.5
G-19	0	**1.6**	0.4	**3.5**	1.5
MW-17	0	1.2	0	0.2	1.5
MW-19	0	0.7	0	0.4	1.5
MW-20	0	**2**	**2.8**	**4.0**	1.5
MW-21	0	0.3	0.2	**2.3**	1.5

[2] Schedule C.2 of W0151-01 (measured in any building on or adjacent to the facility)

[3] During Q4 2009, it was noted that all CH_4 readings were 0.1% v/v minimum. It appeared that there was a slight drift in these meter readings. The gas meter was sent for independent calibration immediately following this sampling round.

ENERGY & RESOURCE USE

Murphy Environmental's energy provider is Airtricity, one of Ireland's green renewable energy providers. Their power is sourced from windfarms and from certified hydro-power stations.

ELECTRICITY USE 2009

Based on electricity bills, the energy consumption at Murphy Environmental Gormanston for 2009 was 330,988 kWh.

ELECTRICITY-RELATED CARBON EMISSIONS, 2009

Airtricity data from 2009 states that 79% of its energy is sourced from renewable sources, as opposed to 9% for ESB. Electricity generated by Airtricity produces 142 kg CO_2 per MWh, as opposed to an average for Ireland of 538 kg (Source: Airtricity). The following chart shows the actual CO_2 emissions based on electricity use at Gormanston in 2009, and potential emissions, based on average CO_2 emissions from electricity generation in Ireland.

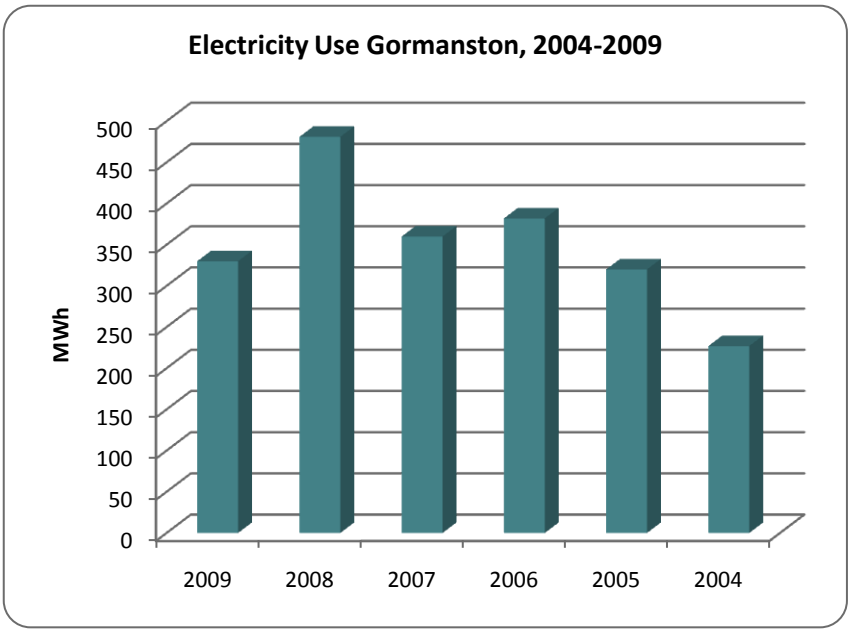
Based on 2009 consumption rates, CO_2 emissions associated with Murphy Environmental Gormanston electricity usage were 47 tonnes.

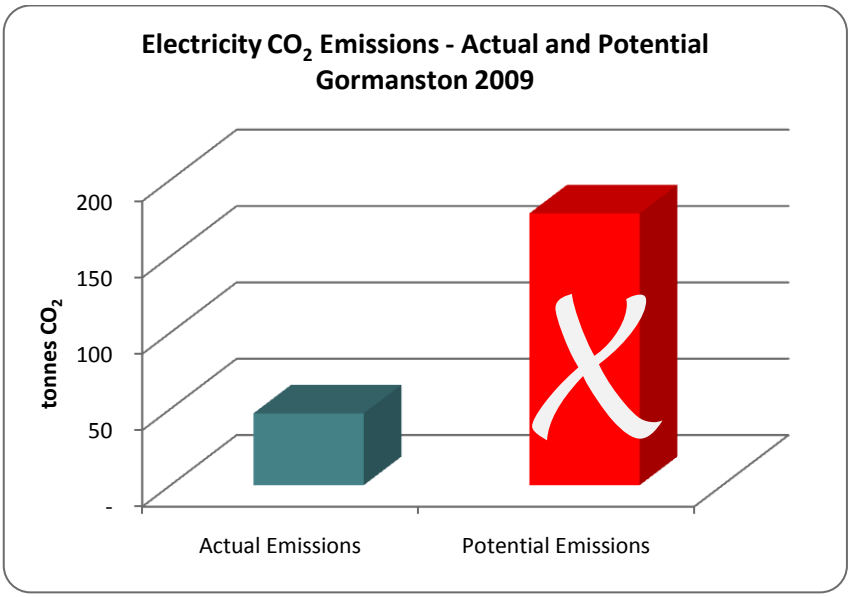
In 2009, Murphy Environmental Gormanston avoided the release of over 131 tonnes of CO_2 emissions to the atmosphere – this is the equivalent of taking approximately 47 cars off the road for a year[4].

Murphy Environmental Gormanston avoided over 131 tonnes of CO_2 emissions in 2009 by using a green energy provider.

By using electricity generated from renewable energy sources, during 2009, Murphy Environmental Gormanston avoided the release of the equivalent of approximately 47 cars' CO_2 emissions.

[4] Based on the average Irish car releasing 164g CO_2/km (SEI, July 2008) and an average mileage of 16,894 km/annum (SEI, August 2005), i.e. total annual CO_2 emissions of approximately 2.8 tonnes


Electricity Use Gormanston, 2004-2009
MWh
500
450
400
350
300
250
200
150
100
50
0
2009
2008
2007
2006
2005
2004

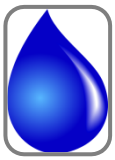

Electricity CO_2 Emissions - Actual and Potential
Gormanston 2009
tonnes CO_2
200
150
100
50
-
Actual Emissions
Potential Emissions

DIESEL

During 2009, a total of 127,085 litres of road diesel and 222,140 litres of green diesel were used by plant associated with operations at Murphy Environmental Gormanston.

During 2009, Murphy Environmental Gormanston stopped the practice of storing road diesel on site; all road diesel is now acquired off-site, and recorded via fuel card.

WATER



During 2009, approximately 724 cubic meters of water was consumed by the Murphy Environmental Gormanston facility.

COMPOSITION OF WASTES REMOVED OFF-SITE

General municipal waste (e.g. from the site canteen) and waste paper are collected and removed off-site by permitted waste collectors for recycling or disposal. The quantity of waste removed during 2009 is detailed in the table below.

In addition, 90 litres of kerosene (EWC 11 01 13) and 3 No. wheelie bins of waste oil filters (EWC 16 01 07) were collected by Safety Kleen during 2009. Certificates of Recovery from for the Kerosene are retained on-site.

Off-site Waste Removal, 2009

Waste Removed Off-Site	Approx. Weight (tonnes)
Waste Tyres	3.04
Waste batteries	0.62
Total (Tonnes)	**3.66**

The photograph below shows our gravel washing and screening operations at the Gormanston site (centre of photograph) and stockpiles of virgin aggregate and recovered gravels. A cement batching plant (no longer in operation) is shown in the background.

G MURPHY ENVIRONMENTAL & THE COMMUNITY

OPEN AND TRANSPARENT

All of our monitoring information, EPA correspondence, etc. is on the public record. It is available for inspection at our site offices or at the EPA Inspectorate Office in Clonskeagh, Dublin.

PUBLIC COMMITMENTS

Murphy Environmental has developed a communications procedure to allow public access to facility information. The main methods are:

- Annual Environmental Reports, for inspection at our site offices
- Company newsletter
- Site notice board
- Complaints are recorded and tracked
- An information pack is available to customers and interested parties
- Site documentation is available for inspection at the site office
- Our Facility Managers are available to answer any queries

We are also in routine and regular communication with the Agency with reference to compliance requirements and requests for information.

CORPORATE POLICIES

Our Environmental and Health & Safety Policies were written to document the company's overarching policy commitments in these two key areas. The policy statements are fully backed up by the resources required to fulfil our goals.

The policies have been translated into Russian and Polish to accommodate drivers from the prominent nationalities entering Murphy Environmental sites. They were distributed to drivers, and are available to download from our website.

LOCAL SCHOOLS SPONSORSHIP PROGRAMME

Murphy Environmental launched an environmental sponsorship programme of local primary schools in December 2005. We made a commitment to maintain the initiative for a minimum of five years, with the objective of fostering long-term projects. Projects which promote and encourage the preservation and protection of the environment are rewarded, with the specifics of the selected projects entirely at the schools' discretion.

The following primary schools have been sponsored by Murphy Environmental in relation to the promotion of environmental issues:

1. Balbriggan Educate Together N.S., Hamlet Lane, Balbriggan, Co. Dublin
2. Balscadden N.S., Balscadden, Co. Dublin
3. Hedgestown N.S., Hedgestown, Lusk, Co. Dublin
4. Laytown N.S., Laytown, Co. Meath
5. Naul N.S., Naul, Co. Dublin
6. Realt na Mara N.S., Donacarney, Mornington, Co. Meath
7. Saints Peter & Paul N.S., Chapel Street, Balbriggan, Co. Dublin
8. St. George's N.S., Hampton Street, Balbriggan, Co. Dublin
9. St. Mologa's N.S., Bremore, Balbriggan, Co. Dublin
10. St. Oliver Plunkett N.S., Balrothery, Balbriggan, Co. Dublin
11. St. Patrick's N.S., Stamullen, Co. Meath
12. St. Theresa's N.S., Pinewood, Balbriggan, Co. Dublin
13. White Cross N.S., Julianstown, Co. Meath

Many of our sponsor schools are new 'Green Flag' holders, a demonstration of their hard work and commitment to sustainability projects.

OTHER BENEFICIARIES

Murphy Environmental continued to support a range of local initiatives through 2009, including:

- Drogheda Homeless Aid
- The Fingal Cricket League A & B Cups
- The Lifetime Achievement Awards at the Drogheda Chamber of Commerce

AVOIDING NUISANCE

Murphy Environmental has invested in a number of pieces of equipment in order to better manage our environmental impacts. Roads in the vicinity of the site are serviced by a facility roadsweeper and water bowser. All trucks exiting our site must use the wheelwash, further reducing the potential for the generation of mud on roads.

Daily, weekly and monthly site inspections are carried out to ensure that the site is kept clean and free of anything that might be perceived to cause a nuisance to site neighbours.

COMPLAINTS

Murphy Environmental logs all complaints or comments relating to the site which may be received directly by them, by the EPA or other parties. On 11th December 2009 a member of the public raised a concern regarding the level of mud on the roads near the facility. On 15th December 2009 a complaint was received from Meath County Council regarding the level of mud on the roads near the facility. The roadsweeper was deployed.

ENVIRONMENTAL INCIDENTS

Any incident that occurs on site must be reported to the EPA in accordance with the licence conditions. Incidents arising during 2009 are summarised in the table below. An incident is defined by the Waste Licence as:

- An emergency
- Any emission which does not comply with the requirements of the licence
- Any trigger level specified in the licence which is attained or exceeded
- Any indication that environmental pollution has, or may have, taken place
- The non-acceptance or rejection of any waste load at the facility

The following incidents were reported to the EPA during 2009:

No.	Date	Incident
2009_01	27/03/2009	Groundwater: non conformance with Drinking Water Regulations for ammoniacal nitrogen. There was also non-conformances with EPA Trigger limits for Conductivity and Chloride
2009_02A	20/04/2009	Gas: Trigger Level for CO_2 exceeded in G-12
2009_03	22/06/2009	Gas: Trigger Level for CO_2 exceeded in G-12, G-17, G-19, MW20
2009_04	07/07/2009	Groundwater: Non conformance with Drinking Water Regulations for Ammoniacal Nitrogen, Iron, Manganese, Total and Faecal Coliforms. There were also non-conformances with EPA Trigger Limits for Conductivity, Chloride, Sulphate and Sodium
2009_05	07/08/2009	Gas: Trigger Level for CO_2 exceeded in G-12, G-14, G-17 and MW-20
2009_06	25/08/2009	Groundwater: Non conformance with Drinking Water Regulations for Ammoniacal Nitrogen. There were also non-conformances with EPA Trigger Limits for Conductivity, Chloride and Sulphate
2009_07	19/11/2009	Gas: Trigger Level for CO_2 exceeded in G12, G17, G19, MW20 and MW21
2009_09	11/12/2009	Groundwater: Non conformance with Drinking Water Regulations for Ammoniacal Nitrogen & Sulphate. There were also non-Conformances with EPA trigger Limits for Conductivity, Sulphate and pH. Surface Water: Total suspended solids exceeded the Salmonid Water Limit

H PRTR

WHAT IS EU PRTR?

The European Pollutant Release and Transfer Register (E-PRTR) is an inventory of pollutant emissions from industry and other sources across Europe. The aim of the inventory is to make information more available to the public on pollutant emissions and waste transfers from a range of industrial sectors. Reporting under PRTR is an annual process.

The E-PRTR has an expanded list of chemicals to be reported on an annual reporting frequency. The E-PRTR applies to industrial facilities falling within 9 activity sectors, to include waste management.

EPA REQUIREMENTS

This is the third year in which Murphy Environmental and other licensed facilities have completed an electronic report of emissions data and waste transfers via the EPA website. There is also a requirement to include a printed copy of the PRTR return in the AER (please find attached).

FEATURES OF E-PRTR

The main features of the E-PRTR are as follows:

- 91 specified pollutants are required to be reported upon if they are released to air, water or land, either as permitted emissions or as accidental releases, or transferred to off-site Waste Water Treatment Plants (WWTPs).
- Types of emissions to be reported include deliberate, accidental, routine and non-routine releases.
- The transfer of hazardous and non-hazardous wastes must also be reported under the new Regulation.
- E-PRTR returns must be made by EPA to the EU, and consequently returns from operators must be made to EPA, on an annual basis.
- Facilities are required to ensure an appropriate quality of the data they report to their Competent Authority.
- The data they provide must be complete, consistent and credible; this requires that they use, to the extent possible, internationally approved data recording and collection methodologies, or other methods shown to be equivalent.

(Source: EPA)

Environmental Protection Agency

AER Returns Worksheet

Version 1.1.10

REFERENCE YEAR	2009

1. FACILITY IDENTIFICATION

Parent Company Name	Murphy Concrete Manufacturing Ltd.
Facility Name	Murphy Concrete Manufacturing Ltd
PRTR Identification Number	W0151
Licence Number	W0151-01

Waste or IPPC Classes of Activity

No.	class_name
4.4	Recycling or reclamation of other inorganic materials.
3.1	Deposit on, in or under land (including landfill).
3.13	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.
4.13	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.
4.3	Recycling or reclamation of metals and metal compounds.
Address 1	Sarsfieldtown
Address 2	Gormanstown
Address 3	Co. Meath
Address 4	
Country	Ireland
Coordinates of Location	-6.25153 53.654
River Basin District	IEEA
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Emma Murphy
AER Returns Contact Email Address	Emma_Murphy@mcm-environmental.com
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	01-8496611
AER Returns Contact Mobile Phone Number	086-2551616
AER Returns Contact Fax Number	01-8496612
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	2866
Number of Employees	4
User Feedback/Comments	Please note W0151-01 is a RECOVERY facility for CLEAN & INERT materials only
Web Address	www.murphyenvironmental.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General
5(d)	Landfills
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR								
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR								
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR								
POLLUTANT		METHOD				QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Murphy Concrete Manufacturing Ltd

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this onl

RELEASES TO WATERS								
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS								
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS								
POLLUTANT					QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND							
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND							
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	17 05 04	No	325098.69	Soil & Stones	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd,W0151-01	Sarsfieldstown,Gormanston, Co Meath,.,Ireland		
Within the Country	17 01 07	No	16.52	Concrete Bricks, Tiles & Ceramics	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd,W0151-01	Sarsfieldstown,Gormanston, Co Meath,.,Ireland		
Within the Country	17 01 01	No	14670.86	Concrete	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd,W0151-01	Sarsfieldstown,Gormanston, Co Meath,.,Ireland		
Within the Country	17 05 04	No	807.82	Natural Waste Sand and Clays	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd,W0151-01	Sarsfieldstown,Gormanston, Co Meath,.,Ireland		
Within the Country	17 05 04	No	11724.82	Recovered Gravel and Crushed Rocks	R5	C	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd,W0151-01	Sarsfieldstown,Gormanston, Co Meath,.,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

I AER LICENCE REQUIREMENTS

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▪ Reporting Period	2
▪ Waste activities carried out at the facility	9
▪ Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year	11
▪ Types and Quantity of recovered materials sold to third parties (e.g. as aggregate material)	11
▪ Calculated remaining capacity of the facility and year in which final capacity is expected to be reached	13
▪ Methods of deposition of waste	10
▪ Summary report on emissions	23
▪ Summary of results and interpretation of environmental monitoring	23
▪ Resource and energy consumption summary	37
▪ Proposed development of the facility and timescale of such development	13
▪ Volume of leachate produced and volume of leachate transported / discharged off-site	34
▪ Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year	13
▪ Report on restoration of completed cells / phases	13
▪ Site survey showing existing levels of the facility at the end of the reporting period	13
▪ Estimated annual and cumulative quantities of landfill gas emitted from the facility	35
▪ Estimated annual and cumulative quantity of indirect emissions to groundwater	34
▪ Annual water balance calculation and interpretation	26
▪ Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report	17
▪ Schedule of Environmental Objectives and Targets for the forthcoming year	18
▪ Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation	16
▪ Tank, pipeline and bund testing and inspection report	26
▪ Report on the performance and compatibility of the septic tank (and associated percolation area) with the Agency's *Wastewater Treatment manual: "Treatment Systems for Single Houses"*	N/A
▪ Reported incidents and Complaints summaries	43
▪ Review of Nuisance Controls, including an assessment of dust and noise control measures	27
▪ Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information	13
▪ Report on training of staff	20
▪ Any other items specified by the Agency	-

MURPHY ENVIRONMENTAL

A DIVISION OF MURPHY CONCRETE MANUFACTURING LTD.

For further information, please contact:

Emma Murphy, Facility Manager

Lisa Maguire, Assistant Facility Manager

Patricia Rooney, General Manager

Murphy Environmental Gormanston,

Sarsfieldstown,

Gormanston,

Co. Meath.

Tel: 01 8496610

Email: info@murphyenvironmental.ie

Produced with the assistance of:

patel tonra ltd
environmental solutions

Tel: 01 8020520

Email: contact@pateltonra.com

www.pateltonra.com