

ATTACHMENT D5
LANDFILL GAS MANAGEMENT

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

ATTACHMENT D5 – LANDFILL GAS MANAGEMENT

D5.a Is there a Landfill Gas Management Plan?

Details of the proposed landfill gas management plan are provided in Section 2.3.13 of the Environmental Impact Statement.

Details of the landfill gas management system are provided on Drawing D5.1.

Specification details for the landfill gas drainage layer and landfill gas wells are provided in Appendix 2H of the Environmental Impact Statement.

Details of procedures to be implemented in managing the health and safety / explosion risks presented by landfill gas migration are provided in

- Section 2.2.12 of the Environmental Impact Statement;
- the outline Health and Safety Plan reproduced in Appendix 2F of the Environmental Impact Statement
- the outline contingency plan reproduced in Section 2H of the environmental Impact Statement.

Gas Sim analysis predictions of the volumes of methane and carbon dioxide gas emissions from the proposed engineered landfill are attached. These show a reduction in the volume of methane generated from approximately 80m³/hour in Year 2 to 10m³/day in Year 20 and a reduction in the volume of carbon dioxide generated from 40m³/hour in Year 2 to 5m³/hour in Year 20. Refer to report prepared by Mouchel Parkman on Air Dispersion Modelling reproduced in Appendix 7A of the Environmental Impact Statement.

The predicted annual methane production (averaged from Year 1 to Year 20) is benchmarked against the existing list of Irish Landfills on the European Pollutant Emission Register (EPER) on the attached spreadsheet. This indicates that the predicted average methane emission rate from the remediation landfill over a 20 year period (equivalent to 175,725 kg/year) is at the lower end of emissions from Irish Landfill sites in 2001 (approximately 42nd out of 48 No. landfill sites). Average annual emissions from the proposed remediation landfill will account for approximately 0.25% of the total methane emissions from existing Irish landfill sites in the year 2001 (67,377,000 tonnes /year).

These statistics must be viewed in light of the existing situation where the domestic, commercial and industrial waste buried at the unauthorised landfills on Roadstone Dublin's lands is already undergoing degradation and generating landfill gas and that these emissions are currently migrating in an uncontrolled manner through various environmental media.

D5.b Is there a passive venting system?

Yes. Refer to Section 2.3.13 of the Environmental Impact Statement.

D5.c Does the passive system cover all of the filled area?

Yes. Refer to Section 2.3.13 of the Environmental Impact Statement and Drawing D5.1

D5.d Have gas alarm systems been installed in the site buildings?

Proposed. Refer to Section 2.2.10 of the Environmental Impact Statement

D5.e Have measures been installed to prevent landfill gas migration (eg. barriers)

Yes. Basal / side liners provided. Refer to Section 2.3.11 of the Environmental Impact Statement.

D5.f Has a time scale been proposed for the installation of landfill gas infrastructure?

No. Passive vents will be installed as landfilling operations progress. Refer to Section 2.3.13 of the Environmental Impact Statement.

Although the volume of landfill gas is likely to be too small to support a flare, provision has been made for connection of the passive vents to a small flare should landfill gas monitoring ever indicate it is viable.

D5.g Is gas flaring undertaken at the site?

Not Applicable

D5.h Is there an active (ie. pumped) landfill gas extraction system?

Not Applicable

D5.i Does the active system cover all of the filled area?

Not Applicable

D5.j Is landfill gas used to generate energy at the site?

Not Applicable

D5.k Have emissions from the flarestack and utilisation plant been assessed for source, composition, quantity and level and rate?

Not Applicable

D5.l Has a maintenance programme for the control system been specified?

Not Applicable

D5.m Has a condensate removal system been designed?

Not Applicable

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

Roadstone Dublin Limited
Remediation of Unauthorised Landfill Sites, Blessington, Co. Wicklow

European Pollutant Emission Register (EPER)
Methane Emissions from Irish Landfills (2001)

Facility No.	Facility Name	Emission air	Emission water direct	Emission water indirect
1	Balleally Landfill	10,400,000.00		
2	Ballyogan Landfill Facility Ballyogan Recycling Park	7,120,000.00		
3	Dunsink Landfill	5,420,000.00		
4	Dundalk Landfill Amenity	3,610,000.00		
5	Kilsale Road Landfill	3,480,000.00		
6	Basketstown Landfill Facility	2,790,000.00		
7	Killurin Landfill Site	2,340,000.00		
8	Kilbarry Landfill Site	1,990,000.00		
9	KTK Landfill Limited	1,920,000.00		
10	Scotch Corner Landfill	1,780,000.00		
11	Kerdiffstown	1,760,000.00		
12	Derryclure Landfill	1,510,000.00		
13	Longpavement	1,500,000.00		
14	Raffeen Landfill Site	1,470,000.00		
15	Gortadroma Landfill Site	1,400,000.00		
16	Whiteriver Landfill Site	1,390,000.00		
17	East Cork Landfill Site	1,300,000.00		
18	Marlinstown Landfill	1,140,000.00		
19	Rathroeen Landfill	1,060,000.00		
20	Derrinmera Landfill	1,040,000.00		
21	Churchtown Landfill	1,010,000.00		
22	Ballyguyroe Landfill Site	994,000.00		
23	Pollboy Landfill Facility	953,000.00		
24	Ballaghveny Landfill	930,000.00		
25	Tramore Waste Disposal Site	858,000.00		
26	Ballynacarrick Landfill Site	800,000.00		
27	Dungarvan Waste Disposal Site	750,000.00		
28	Kylealesha Landfill	716,000.00		
29	Corranure Landfill	600,000.00		
30	Benduff Landfill	570,000.00		
31	Youghal Landfill	536,000.00		
32	Donohill Landfill	481,000.00		
33	Powerstown Landfill Site	474,000.00		
34	Balbane Landfill Site	421,000.00		
35	Roscommon Landfill Facility	365,000.00		
36	Ballymurtagh Landfill Facility	354,000.00		
37	Bailieborough Landfill	281,000.00		
38	Dunmore Landfill	259,000.00		
39	Ballaghaderreen Landfill	241,000.00		
40	Kilmurry South	192,000.00		
41	Muckish Landfill Site	185,000.00		
42	Doora Landfill Site	174,000.00		
43	Derryconnell Landfill Site	173,000.00		
44	Mohill Landfill	150,000.00		
45	Carrick On Shannon Landfill	140,000.00		
46	Glenalla Landfill Site	140,000.00		
47	Ballydonagh Landfill	105,000.00		
48	North Kerry Landfill Site	105,000.00		
Emission totals		67,377,000.00		

Proposed Engineered Landfill Site, Dillonsdown

Methane Emissions
Cubic Metres/ Hour

Emission Rate (Year 0) 0
 Emission Rate (Year 2 - 2006?) 80
 Emission Rate (Year 4 - 2008?) 60
 Emission Rate (Year 6 - 2010?) 35
 Emission Rate (Year 8 - 2012?) 29
 Emission Rate (Year 10 - 2014?) 23
 Emission Rate (Year 12 - 2016?) 20
 Emission Rate (Year 14 - 2018?) 16
 Emission Rate (Year 16 - 2020?) 14
 Emission Rate (Year 18 - 2022?) 12
 Emission Rate (Year 20 - 2024?) 10

0
80
60
35
29
23
20
16
14
12
10

Average Emission Rate (over 20 year period)

29.5

Average Emission Rate (over 20 year period)

= 258,420 cubic metres / year

Average Emission Rate (over 20 year period)

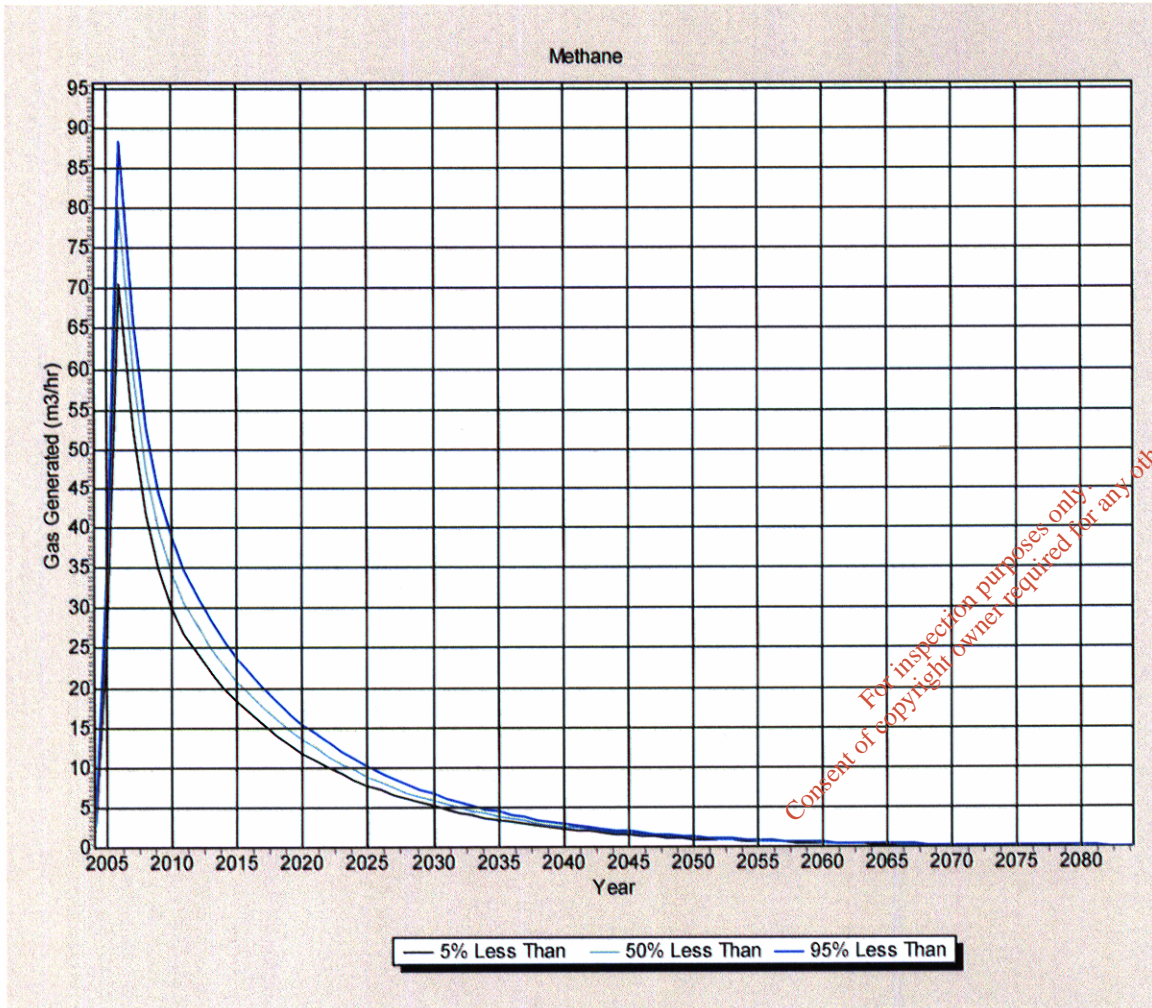
= 175,725 kg / year CH4 = 0.68kg/m³ @ 15°C

GasSim Version V1.03

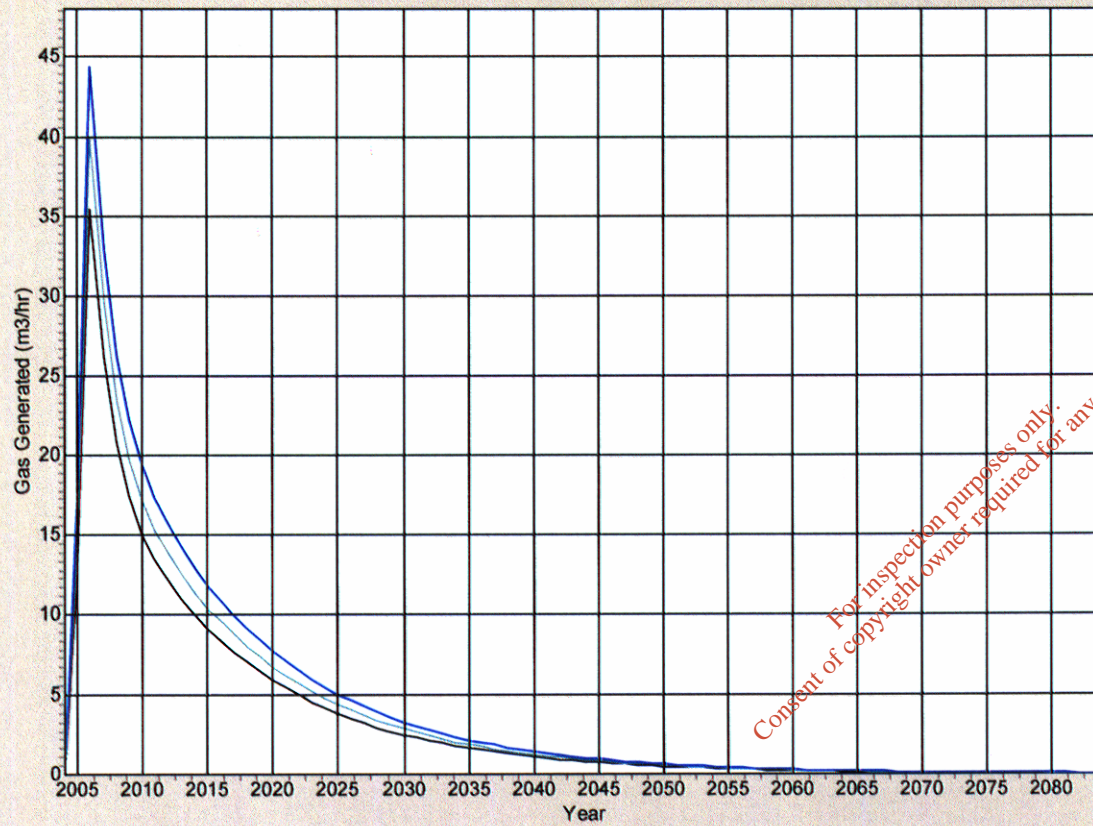
Project Name: Engineered Landfill, Blessington

Project Client: Roadstone Dublin

Methane Production



Carbon Dioxide



— 5% Less Than — 50% Less Than — 95% Less Than

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

GasSim Version V1.03

Project Name: Engineered Landfill, Blessington

Project Client: Roadstone Dublin

Carbon Dioxide Production

Placeholder

This page has been inserted to indicate that content has been extracted from this location in the document and has been stored in a separate file.
(This is due to file size issues.)

The extracted content can be found in the following electronic pdf file:

Application Form-Drawing-11

*For inspection purposes only.
Consent of copyright owner required for any other use.*
Licence: W0213-01