

Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Co. Wexford

(submitted online via www.epa.ie)

22 June 2017

To whom it may concern,

Introduction

Integrated Materials Solutions Limited Partnership (IMS) acting on behalf of Integrated Materials GP Limited with registered office at Floor 7, College House, Townsend Street, Dublin 2 wish to lodge an objection to the Proposed Decision (PD) of a Waste Licence Review:

Waste Licence Register No.	W0277-02
Applicant	Roadstone Limited
Facility	Huntstown Inert Waste Recovery Facility, Huntstown Quarry, Huntstown, Kilshane and Johnstown Townlands, Finglas, Dublin 11

IMS are a waste company which have an interest in the recovery and disposal of construction and demolition type wastes. IMS are in the process of a Licence Transfer Application for Waste Licence W0129-02, Murphy Environmental Hollywood Inert Landfill Facility.

We wish to lodge an objection under Section 42 of the Waste Management Act 1996 as amended. We also wish to request an Oral Hearing should the Agency warrant that the subject matter of this objection requires an Oral Hearing due to the issues raised, potential national and regional importance of the PD, and scale and complexity of the subject matter.

Fee

A payment of €300 has been made to cover the cost of this objection (€200) and the request for an oral hearing (€100) should it be deemed necessary.

Subject Matter

The subject matter of this submission relates to the type of waste facility (i.e. Soil Recovery), the Handling of Materials and the Waste Acceptance Criteria of the Huntstown Inert Waste Recovery Facility as laid out in the Proposed Decision and the related Application and Environmental Impact Statement.

Grounds for Objection

1. Type of Waste Facility

The licensed waste recovery activities of the Huntstown Facility in accordance with the Fourth Schedule of the Waste Management Act 1996 as amended are:

Class R 3.	Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolysis using the components as chemicals.
Class R 5 (P).	Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.
Class R 13.	Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).

The main class of activity is Class R5 the recovery of soil which is placed within a quarry void. The site is not a landfill for inert waste which would require permission for licensed waste disposal activities in accordance with the Third Schedule of the WMA such as:

- Class D 1 Deposit into or on land (e.g. including landfill etc)
- Class D 5 Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment etc)

The distinction between a Soil Recovery Facility and Inert Waste Landfill and the operational and engineering controls required for each site is important in defining the specific Waste Acceptance Criteria and the handling of waste including non-greenfield (i.e. brownfield, previously developed or potentially contaminated) soil and stone.

2. Environmental Setting

The EIS which accompanied the waste review application confirms that the underlying aquifer is **Locally Important** and has been classified as being having **High to Extreme Vulnerability** meaning it is susceptible to contamination from surface sources.

The EIS states that the quarry excavation has intercepted the water table and that active dewatering pumping is taking place. It appears that the **infilled waste will be under the natural water level once the dewatering stops.**

3. Pollution Control Measures

Soil Recovery Facilities (either Waste Licence, Waste Facility Permit or Certificate of Registration sites) do not have any engineering controls as laid out in Annex I of the Landfill Directive (1999/31/EC) and the EPA's Landfill Design Manuals. For example, Annex I of the Directive sets out that inert landfills must have a base and sides consisting of a mineral layer which satisfies permeability of $K < 1.0 \times 10^{-7} \text{m/s}$ and thickness $> 1\text{m}$. A copy of the relevant extract from the Directive is appended.

Annex I outlines that the a landfill must be situated and designed so as to meet the necessary conditions for preventing pollution of the soil, groundwater or surface water. This is achieved through a combination of the bottom liner as aforementioned and a top liner following cell completion. These measures or geological conditions are not present in the Huntstown Facility.

As a soil recovery facility Huntstown does not require, nor is it conditioned in the Licence, for specially engineered cells to isolate the deposited waste from the environment. It is understood that the waste is deposited directly on to the quarry floor with no protection to the environment and the underlying groundwater.

It also does not require, nor is it conditioned in the Licence, any specific measures regarding the deposition of waste below the static groundwater table.

4. Waste Acceptance Criteria

Condition 8 of the PD for the Huntstown Facility sets out requirements for the acceptance and handling of waste at the site. There are a number of ambiguities with these conditions as follows:

8.5.1 The licensee shall, in a manner and format agreeable to the Agency, propose maximum concentrations and/or trigger levels for relevant contaminants in non-greenfield soil and stone proposed for acceptance and backfill at the facility. Non-compliant materials shall be dealt with in accordance with Condition 8.13.8 of this licence.

The licence does not appear to set out any maximum concentrations and/or trigger levels for relevant contaminants in non-greenfield soil and stone for proposed backfill at the facility. However Condition 8.13.9 states:

8.13.9 The waste shall be subject to the measures outlined in the 'Waste Acceptance and Handling Plan', dated June 2016, as set out in Appendix 2A to the Environmental Impact Statement, which was submitted as part of the licence application.

Attachment H2 of the Waste Licence Review Application contains the "Waste Acceptance and Handling Plan" dated June 2016. Section 2.2 of this document references the Landfill Directive (Council Decision 2003/33/EC) and specifically:

- (i) the criteria set out for the definition of *inert waste* in Article 2(e) of the Landfill Directive (1999/31/EC) and
- (ii) the criteria for intake to inert waste landfills listed in Section 2.1.2 of the Annex to 2003/33/EC.

On this basis it is considered reasonable to also assume that materials conforming to the EWC codes listed above (and/or certified as such) can be classified as inert for waste acceptance purposes at the licensed soil recovery facility at Huntstown.

Furthermore, Section 2.2.2 states;

2.2.2 Intake from Non-Greenfield Sites

The limit values for soil and stone to be accepted at the recovery facility shall be in accordance with those set for inert waste in Section 2.1.2 of the Annex to Council Decision 2003/33 of 19 December 2002 establishing criteria for the acceptance of waste at landfills. Test data shall be provided to confirm that the imported soils are inert and comply with the adopted inert waste acceptance criteria. The limit values for waste intake at the facility as set out in Council Decision 2003/33 are indicated in the table reproduced overleaf.

A copy of the Limit Values for Inert Waste Intake is included in page 7 of the Waste Acceptance and Handling Plan and a copy of the relevant extract from the Landfill Directive is appended.

While Condition 8.5.1 requires that the licensee should propose maximum concentrations and/or trigger levels for relevant contaminants in non-greenfield soil and stone, it is unclear if Condition 8.13.9 which refers to the measures in the Waste Acceptance and Handling Plan effectively sets the levels for the site as they are contained within the Waste Acceptance and Handling Plan.

The Landfill Directive and the various limits set out therein are **relevant to disposal of waste at Landfill**. Soil Recovery Facilities falling under Waste Licence, Waste Facility Permit or Certificate of Registrations are not Landfills and therefore it is not clear that the Landfill Directive is applicable.

The limits proposed in the Waste Acceptance and Handling Procedure as referenced in the Licence are for inert landfills which are required to have engineering controls such as low permeability engineered liners, capping systems, restrictions on waste deposition beneath the water table and documented and approved waste acceptance criteria and testing requirements.

The current PD Licence and associated documents could allow for waste which meets the criteria for inert landfill set out in Council Decision 2003/33/EC; i.e. site could accept up to 1,500,000 tonnes/year of waste which could be contaminated with up to 100mg/kg Polyaromatic Hydrocarbons (PAHs), 500mg/kg Mineral Oil or various leachable heavy metals.

It is noteworthy that Section 2.1.2.2 states that individual Member States are to set the limit value for PAHs. It is unclear if Ireland has set a national limit for these contaminants for inert landfills (or other infill sites). Previous soil restoration facilities have been restricted to accepting greenfield material only or material which complies with very low concentrations of anthropogenic contamination (e.g. PAHs <2mg/kg with 50% of the leaching limit values for metals).

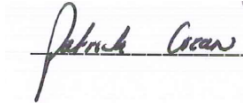
5. Summary

In summary, IMS have concerns about the PD at the Huntstown Inert Waste Recovery Facility due to:

- The site is a Recovery Site not an Inert Landfill;
- Large volumes of waste will be deposited on top of a Locally Important aquifer which have been classified as having high to extreme vulnerability to contamination from surface sources;
- There are no soil or groundwater protection measures (e.g. top or bottom liner) required;
- No detailed hydrogeological risk assessment appears to have been carried out for the site;
- The Waste Acceptance Criteria and contaminant limit/trigger values are unclear in the Licence;
- The Applicant's Waste Acceptance and Handling Plan is cross referenced in the Licence; outlines the intention to adopt the Waste Acceptance Criteria prescribed for Inert Landfills in the Landfill Directive in the absence of any of the control measures for Inert Landfills which are also prescribed in the Directive;

- The Waste Acceptance Criteria proposed include a high limit level of acceptable anthropogenic type contamination (e.g. PAHs <100/mg/kg and Mineral Oil <500mg/kg);
- The adoption of these limits for soil recovery facilities could set a precedent for all soil recovery sites which is not the intended purpose of the Landfill Directive and could lead to environmental pollution depending on the sites setting and the lack of environmental controls required at soil recovery/infill sites.

Yours sincerely,



Patrick Crean

Director

Integrated Materials Solutions

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ANNEX I

GENERAL REQUIREMENTS FOR ALL CLASSES OF LANDFILLS**1. Location**

- 1.1. The location of a landfill must take into consideration requirements relating to:
- (a) the distances from the boundary of the site to residential and recreation areas, waterways, water bodies and other agricultural or urban sites;
 - (b) the existence of groundwater, coastal water or nature protection zones in the area;
 - (c) the geological and hydrogeological conditions in the area;
 - (d) the risk of flooding, subsidence, landslides or avalanches on the site;
 - (e) the protection of the nature or cultural patrimony in the area.
- 1.2. The landfill can be authorised only if the characteristics of the site with respect to the abovementioned requirements, or the corrective measures to be taken, indicate that the landfill does not pose a serious environmental risk.

2. Water control and leachate management

Appropriate measures shall be taken, with respect to the characteristics of the landfill and the meteorological conditions, in order to:

- control water from precipitations entering into the landfill body,
- prevent surface water and/or groundwater from entering into the landfilled waste,
- collect contaminated water and leachate. If an assessment based on consideration of the location of the landfill and the waste to be accepted shows that the landfill poses no potential hazard to the environment, the competent authority may decide that this provision does not apply,
- treat contaminated water and leachate collected from the landfill to the appropriate standard required for their discharge.

The above provisions may not apply to landfills for inert waste.

3. Protection of soil and water

- 3.1. A landfill must be situated and designed so as to meet the necessary conditions for preventing pollution of the soil, groundwater or surface water and ensuring efficient collection of leachate as and when required according to Section 2. Protection of soil, groundwater and surface water is to be achieved by the combination of a geological barrier and a bottom liner during the operational/active phase and by the combination of a geological barrier and a top liner during the passive phase/post closure.
- 3.2. The geological barrier is determined by geological and hydrogeological conditions below and in the vicinity of a landfill site providing sufficient attenuation capacity to prevent a potential risk to soil and groundwater.

The landfill base and sides shall consist of a mineral layer which satisfies permeability and thickness requirements with a combined effect in terms of protection of soil, groundwater and surface water at least equivalent to the one resulting from the following requirements:

- landfill for hazardous waste: $K \leq 1,0 \times 10^{-9}$ m/s; thickness ≥ 5 m,
- landfill for non-hazardous waste: $K \leq 1,0 \times 10^{-9}$ m/s; thickness ≥ 1 m,
- landfill for inert waste: $K \leq 1,0 \times 10^{-7}$ m/s; thickness ≥ 1 m,

m/s: meter/second.

EWG code	Description	Restrictions
1011 03	Waste glass-based fibrous materials	Only without organic binders
1501 07	Glass packaging	
1701 01	Concrete	Selected C & D waste only (*)
1701 02	Bricks	Selected C & D waste only (*)
1701 03	Tiles and ceramics	Selected C & D waste only (*)
1701 07	Mixtures of concrete, bricks, tiles and ceramics	Selected C & D waste only (*)
1702 02	Glass	
1705 04	Soil and stones	Excluding topsoil, peat; excluding soil and stones from contaminated sites
1912 05	Glass	
2001 02	Glass	Separately collected glass only
2002 02	Soil and stones	Only from garden and parks waste; Excluding top soil, peat

(*) Selected construction and demolition waste (C & D waste) with low contents of other types of materials (like metals, plastic, soil, organics, wood, rubber, etc). The origin of the waste must be known.

- No C & D waste from constructions, polluted with inorganic or organic dangerous substances, e.g. because of production processes in the construction, soil pollution, storage and usage of pesticides or other dangerous substances, etc., unless it is made clear that the demolished construction was not significantly polluted.
- No C & D waste from constructions, treated, covered or painted with materials, containing dangerous substances in significant amounts.

Waste not appearing on this list must be subject to testing as laid down under section 1 to determine if it fulfils the criteria for waste acceptable at landfills for inert waste as set out in section 2.1.2.

2.1.2. Limit values for waste acceptable at landfills for inert waste

2.1.2.1. Leaching limit values

The following leaching limit values apply for waste acceptable at landfills for inert waste, calculated at liquid to solid ratios (L/S) of 2 l/kg and 10 l/kg for total release and directly expressed in mg/l for C_0 (the first eluate of percolation test at L/S = 0,1 l/kg). Member States shall determine which of the test methods (see section 3) and corresponding limit values in the table should be used.

Component	L/S = 2 l/kg	L/S = 10 l/kg	C_0 (percolation test)
	mg/kg dry substance	mg/kg dry substance	mg/l
As	0,1	0,5	0,06
Ba	7	20	4
Cd	0,03	0,04	0,02
Cr total	0,2	0,5	0,1

Component	L/S = 2 l/kg	L/S = 10 l/kg	C ₀ (percolation test)
	mg/kg dry substance	mg/kg dry substance	mg/l
Cu	0,9	2	0,6
Hg	0,003	0,01	0,002
Mo	0,3	0,5	0,2
Ni	0,2	0,4	0,12
Pb	0,2	0,5	0,15
Sb	0,02	0,06	0,1
Se	0,06	0,1	0,04
Zn	2	4	1,2
Chloride	550	800	460
Fluoride	4	10	2,5
Sulphate	560 (*)	1 000 (*)	1 500
Phenol index	0,5	1	0,3
DOC (**)	240	500	160
TDS (***)	2 500	4 000	—

(*) If the waste does not meet these values for sulphate, it may still be considered as complying with the acceptance criteria if the leaching does not exceed either of the following values: 1 500 mg/l as C₀ at L/S = 0,1 l/kg and 6 000 mg/kg at L/S = 10 l/kg. It will be necessary to use a percolation test to determine the limit value at L/S = 0,1 l/kg under initial equilibrium conditions, whereas the value at L/S = 10 l/kg may be determined either by a batch leaching test or by a percolation test under conditions approaching local equilibrium.

(**) If the waste does not meet these values for DOC at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7,5 and 8,0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg. (A draft method based on prEN 14429 is available).

(***) The values for total dissolved solids (TDS) can be used alternatively to the values for sulphate and chloride.

2.1.2.2. Limit values for total content of organic parameters

In addition to the leaching limit values under section 2.1.2.1, inert wastes must meet the following additional limit values:

Parameter	Value mg/kg
TOC (total organic carbon)	30 000 (*)
BTEX (benzene, toluene, ethylbenzene and xylenes)	6
PCBs (polychlorinated biphenyls, 7 congeners)	1
Mineral oil (C10 to C40)	500
PAHs (polycyclic aromatic hydrocarbons)	Member States to set limit value

(*) In the case of soils, a higher limit value may be admitted by the competent authority, provided the DOC value of 500 mg/kg is achieved at L/S = 10 l/kg, either at the soil's own pH or at a pH value between 7,5 and 8,0.