

**INSPECTORS REPORT
WASTE LICENCE REGISTER NUMBER 31-1
DOORA LANDFILL, Clare County Council**

(1) Introduction:

Doora landfill has been in operation since 1956 and the wastes disposed of at the facility include municipal, commercial, industrial and construction/demolition wastes. Landfilling commenced in the south western area of the site adjacent to the Ennis-Quin Road and progressed gradually towards the northeast of the site. It is an unlined site which is operated on the principle of dilution and dispersion of the leachate generated and the facility has no infrastructure to facilitate leachate collection or treatment. The application for this facility was not received until 27 /02/98 (prescribed date 01/10/97) hence the facility does not comply with Section 39 of the Waste Management Act 1996.

The facility occupies about 29.8 hectares of land and is situated in the flood plain of the Rivers Gaurus and Fergus. The facility is located in a semi rural area approximately 2km east of Ennis. Lands to the north, east, and south are predominantly used for farming. A number of commercial activities take place between 250 and 500m from the site boundary that include Ennis UDC sewerage treatment works, Clare Marts, the Golden Vale Cooperative, commercial/retail outlets, one B&B. There are a considerable number of private houses constructed within 500m of the landfill boundary. The site is also located close to three important archaeological features – Old Doora church ruins, a holy well and an enclosure. A location plan showing the outline of the site to which the application relates is provided in **Appendix 1**. The plan also shows the layout of the facility.

The River Gaurus runs in a north east to south west direction to the north of the site while the River Fergus bounds the western side of the landfill. The River Fergus is a designated salmonid river under the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. 293 of 1988). Chemical analysis of surface water at various locations upstream and downstream of the facility in both the Rivers Gaurus and Fergus was carried out by the applicant. The results for 1999 indicate that although a localised effect is evident in the River Gaurus, a deterioration in water quality in the River Fergus is not evident. However, a macroinvertebrate survey conducted on the Rivers Gaurus and Fergus indicates a decrease in the water quality in biological terms in both rivers.

The bedrock beneath the site, karstified Carboniferous limestone, is considered (based on GSI guidelines) to be a regionally important aquifer with a high vulnerability. Groundwater flow in the bedrock is through fissure flow and in a general south westerly direction towards the River Fergus. The River Fergus is hydraulically connected to the bedrock and overburden. List I/II substances have been detected in the groundwater and there is the likelihood of further groundwater pollution. The discharge of List I substances to groundwater constitutes a breach of Article 40 of the Local Government (Water Pollution)(Amendment) Regulations, 1999.

A High Court case was taken by a group of local residents against Clare County Council in relation to Doora landfill. On 18/12/98, the High Court judgement was made and this ruling provides for (among other things) the (i) cessation of all landfilling activities by 30/06/01 (ii) completion of remediation, rehabilitation and enhancement works by 31/12/01 (iii) provision of a civic amenity facility at the site until 30/06/02 and (iv) provision of a waste transfer station until 30/06/02 for bulk wastes in the event of there being no alternative landfill/waste disposal site available to take waste from Co. Clare.

The proposed determination provides for the operation of a transfer station at the facility. The conditions of this proposed decision prohibit the applicant from disposing of waste at the landfill from the date of grant of the licence. Condition 5.1 of the proposed decision specifies that only inert waste for restoration of the facility shall be accepted at the landfill while the waste types to be accepted at the civic waste facility are specified in Condition 5.11. The disposal activities applied for would not comply with the requirements of Section 40(4) of the Waste Management Act 1996. In reaching this conclusion, I have had regard to the following:

- evidence of existing groundwater pollution and the likelihood of further pollution
- the vulnerability of the underlying aquifer and the Rivers Gaurus and Fergus to pollution
- the presence of an agricultural supply well approximately 500m to the south of the facility (monitoring of this well showed trace levels of mercury and cadmium, while elevated ammonia levels were also present)
- the likelihood of a deterioration in the quality of the River Fergus which is a designated salmonid river
- the unsuitability of the site for the continued landfilling of waste

The waste activities as set out in the proposed decision will comply with the requirements of Section 40(4) of the Waste Management Act 1996 but the landfill itself may continue to cause environmental pollution.

The inclusion of Classes 4, 6 and 7 of the Third Schedule in the proposed decision allow for the development of a leachate management and treatment system. Classes 4, 10 and 11 of the Fourth Schedule allow for the restoration of the facility using inert materials while Class 9 of the Fourth Schedule (which wasn't applied for by the applicant but is considered appropriate) provides for the possible future use of landfill gas as a power/electricity generating source. Classes 3, 4 and 13 provide for the use of the civic waste facility. The inclusion of Classes 12 and 13 of the Third Schedule allow for the operation of a temporary waste transfer station at the facility.

There is no wheelwash/wheel cleaner at the facility and because of the limited lifespan of this facility, it is not considered necessary to require the applicant to install a wheelwash.

A weighbridge has been operational at the site since November 1997 and Condition 4.8 of the proposed decision requires the maintenance of this infrastructure. Security arrangements currently in place at the facility include palisade fencing and gates and CCTV but the applicant is required to provide fencing around the perimeter of the facility within six months of date of grant of the licence. There are two septic tanks and associated percolation areas at the site and they accept sewage from the weighbridge office and site

office. Condition 4.10.1 requires the applicant to submit a report to the Agency confirming that the septic tanks/percolation areas conform to the criteria specified in SR6:1991. A site office comprising welfare facilities, stores and locker room is located at the facility. A civic waste facility currently operates at the site for the collection of glass, batteries, beverage cans, waste oils, newspapers and white goods. The applicant is required to ensure the presence of at least of 300mm of intermediate cover over all previously deposited waste and Condition 4.15.2 of the proposed decision specifies the final capping requirements. Odours from landfill gas will be controlled by flaring and the applicant is required to replace the existing open flare unit with an enclosed flare within six months of the date of grant of the licence (Condition 4.14.1). The applicant is also required to investigate the possible use of the landfill gas as a source of electricity/power.

Name of Applicant	Clare County Council
Facility Name (s)	Doora Landfill Site at Bunnow, Ballaghboy, Gaurus, Doora, County Clare
Principal activity	Landfill and waste transfer station
Quantity of waste (tpa)	Inert waste for restoration purposes only. Quantities to be determined as part of restoration plan
Environmental Impact Statement Required	Yes
Number of Submissions Received	7
Inspector's Recommendation	The proposed decision as submitted to the Board be approved

SITE VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
13/03/98	Check Site Notice	P. Carey	Complied with information in application
22/5/98	Check Site Notice	P. Carey	EIS required – Site notice complied with Articles 5 and 7
26/11/98 & 27/11/98	Site Visit	P. Carey	Observe site during periods of heavy rainfall
07/07/00	Site Visit	P. Carey & M. Henry	Inspect site and surrounds

(2) Waste Types and Quantities

The total quantities and types of wastes accepted by the facility for the period 1997-1999 are shown below. It is unclear why the quantities of waste disposed of at the facility have decreased between 1997 and 1999.

YEAR	NON-HAZARDOUS WASTE (tpa)	HAZARDOUS WASTE (tpa)	TOTAL QUANTITY OF WASTE (tpa)
1997	60,000	Not Applicable	60,000
1998	50,500	Not Applicable	50,500
1999	50,000	Not Applicable	50,000

(3) Other Significant Environmental Impacts of the Development

The Fergus Estuary and Inner Shannon North Shore has been designated as an NHA site (Code 002048). The area covered by this site extends to within approximately 3 km of the Doora landfill facility and compliance with the conditions of the proposed decision will ensure that there are no impacts on this NHA.

(4) Waste Management, Air Quality and Water Quality Plans

The Draft Waste Management Plan for the Limerick/Clare/Kerry Region was published in November 1999. *It makes reference to the closure of the landfill at Doora by June 2001 and its replacement by the proposed waste management facility at Inagh subject to Licensing by the EPA. It also states that it is possible that the proposed facility at Inagh will not be available to accept waste at the time of closure of Doora landfill. In any interim period between the closure of Doora and the opening of Inagh (subject to licensing) residual wastes from Clare can be transferred after recycling to other authorised landfills in the Region.*

The water quality management plan for the Shannon Estuary specifies water quality criteria and standards to be achieved. The restriction of waste disposal activities at the site as provided for in the proposed decision will ensure that such standards will not be breached.

(16) Submissions***Submission No.1: Mr. John Mangan (received 31/03/98)***

The landfill is directly impacting on Mr. Mangan's residence which is 150 metres from the extended site boundary and this breaches the EPA's requirements for exclusion zones between landfills and residential areas. The Council proposes to create effectively a new landfill site by tipping beyond the major drainage channel at the eastern boundary of the existing site. The three year tipping programme for the extended area will create

intolerable nuisance and it is considered that any further easterly movement of the tip will seriously encroach on the residential amenity of Gaurus/Ballaghboy area.

Comment

The proposed decision only allows for the recovery of inert wastes for restoration purposes and the further landfilling of waste is prohibited at this site. No new areas will be developed under the terms of the proposed decision. Compliance with Condition 6 of the proposed decision will ensure that nuisances will not arise from the licensed activity.

Submission No.2: Duchas, The Heritage Service(received 11/05/98)

The site is close to proposed NHA Area No. 2048 (Fergus Estuary and Inner Shannon, North Shore) which is also designated as a SPA for the protection of wild birds and their habitats. If the application is to extend the dump at Doora, then Duchas request additional details as the site is upstream from the proposed NHA/SPA while if it refers to an existing licence, then Duchas have no objection (in terms of nature conservation) to the issue of the licence.

Comment

As stated above, the proposed decision prohibits the future landfilling of waste at the site and no further extensions of the landfill are permitted. Compliance with the conditions of the proposed decision will ensure that no impacts on NHA site No. 2048 will occur.

Submission No.3: Mid Western Health Board (received 12/05/98)

The dump has been the source of complaints in relation to smoke, smells, rodents, insects and litter while there have been a number of fires at the facility over a period of time. The condition and maintenance of the dump was poor but improvements have been made recently. There was evidence of dogs being buried at the dump while it is noted that the dump is not lined and leachate can enter the water table in the area (flood plain).

Comment

See response to Submission No's 1 & 2 above.

Submission No.4: Mr. Sean O'Shaughnessy (received 11/05/98)

This submission asks (i) how can a person contact the European Commission re groundwater pollution (ii) can the Co. Manager/Co. Secretary be prosecuted for uncontrolled dumping on land directly above a regionally important aquifer (iii) when will the EPA make a decision and (iv) does flooding come within the remit of the EPA.

Comment

The Agency officially responded on 21/07/98 to the concerns/queries raised in Mr. O'Shaughnessy's submission.

Submission No.5: Environment Management Services Ltd. (received 04/08/98)

This submission wanted to know whether the EPA (i) had received replies in relation to notices issued under the Waste Management Regulations 1997 (ii) had received an EIS and (iii) were in a position to determine the licence application or request further information/clarification from the applicant. It also questioned whether the results of the recent EPA visit to the site were available for inspection. Although, considerable improvements in the management of the site have taken place in 1997/1998, the landfill is still a source of nuisance to local residents.

Comment

The Agency officially responded on 27/08/98 to the queries raised in this submission.

Submission No.6: Duchas, The Heritage Service (received 11/12/98)

Duchas recommend that any ground disturbance aspects of the landfill extensions should be monitored by a suitably qualified archaeologist at the time of development.

Comment

See response to Submission No. 2 above.

Submission No.7: Environment Management Services Ltd. (received 15/12/98)

This submission refers to the following:

- *the use of the flood plain lands for disposal of municipal solid wastes and to historical investigations/recommendations in relation to the flood plain (a copy of an independent hydrological analysis of the flood plain is also included)*
- *the site is unsuitable for landfilling as it is a low lying and saturated site with no possibility of attenuating or collecting leachate.*
- *the site fails to meet the EPA's criteria for siting of landfills as the bedrock beneath the site is considered as a regionally important karst aquifer, the site lies within the 50-year floodplain of a river and the site is geologically unsuitable as it is underlain by peat and soft clays and by karstified limestone*
- *the environmental impacts of waste disposal on air quality (odours, fires, dust, litter and landfill gas), surface water (water quality and litter), groundwater (leachate), capacity and functioning of the flood plain (hydrology), visual intrusion, noise, vermin (flies, birds and rats), ecology, human beings (public health and quality of life), material assets (property devaluation, reduction of development potential and archaeological heritage)*
- *the Doora residents should be compensated as a result of living in close proximity to landfill*
- *the improvements necessary prior to closure and the improvements required for the proper closure, restoration and aftercare of the site.*

Comment

The proposed decision prohibits the future landfilling of waste at the facility and in coming to this conclusion I have had regard to the points outlined in *Section 3 Activities recommended for licensing* above. The waste activities set out in the proposed decision will comply with the requirements of Section 40(4) of the Waste Management Act 1996. The restoration, remediation and rehabilitation plan for the facility will have to be agreed with the Agency prior to its implementation.

Signed _____

Dated:

Dr. Michael Henry
Inspector, Environmental Management & Planning

APPENDIX 1
LOCATION MAP & LAYOUT PLAN