



RPS Consulting Engineers, The Enterprise Fund Business Centre, Ballyraine, Letterkenny, Co Donegal, Ireland
T +353 (0)749 161927 F +353 (0)749 161928 E Ireland@rpsgroup.com W www.rpsgroup.com/ireland

Sub on obj.



215-1

Our Ref: BL523450/Corr/AMG/D

E-mail: angela.mcginley@rpsgroup.com

Direct Dial: 0035374 9161927

Date: 22nd February 2006

Licensing Unit
Office of Licensing & Guidance
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
County Wexford

Dear Sir/Madam

MEENABOLL LANDFILL SITE, CO. DONEGAL 215-1

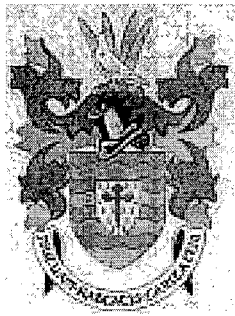
Further to your letter dated 23 January 2006, regarding Objections to the Proposed Decision for the Waste Licence for Meenaboll Landfill site (Ref 215-1), please find enclosed, on behalf of Donegal County Council, submissions in relation to other objections received by the Agency.

We trust that this is in order, however if you do have any queries do not hesitate to contact us.

Yours sincerely
for RPS Consulting Engineers

Angela McGinley
Project Scientist

Enc.



APPLICATION

By

Donegal County Council

To

Environmental Protection Agency

For

Waste Licence

Meenaboll Landfill Site
Meenaboll, Co Donegal

Submission on Objections to Proposed Decision of the Agency on
a waste licence application by Donegal County Council in respect
of a facility at Meenaboll Landfill site. Meenaboll, Letterkenny,
County Donegal

215-1

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

RPS Consulting Engineers


DONEGAL COUNTY COUNCIL

MEENABOLL LANDFILL SITE

FEBRUARY 2006

WASTE LICENCE OBJECTION SUBMISSION

DOCUMENT CONTROL SHEET

Prepared by:	Angela McGinley
Office of Origin:	Letterkenny
Checked by:	Andrew Baskin
Office of Origin:	Belfast
Report Ref:	BL523450/Reports/2006
Status:	Final
Revision No:	*
Date of Release:	February 2006
Approved and authorised for issue:	
	
Name Andrew Baskin Position Director	

With reference to the issues raised under the three objections forwarded to RPS Consulting Engineers on 23 January 2006 regarding the proposed decision on a waste licence application for a landfill site at Meenaboll (215-1) we would like to make the following submission on the objections received.

Our submission follows the referencing of the objection received.

OBJECTION 3 MADE BY MEENABOLL ENVIRONMENTAL PROTECTION GROUP

A Contravention of the Habitats Directive

The designation of Special Areas of Conservation (SAC) is undertaken by National Parks and Wildlife Service (formerly Dúchas). As part of the scoping process Dúchas were consulted during the Environmental Impact Assessment Process and they replied in letter dated 9 August 2002 (See Volume II of the EIS, Appendix A). The assessment for both flora and fauna and surface water in the Environmental Impact Statement (EIS) was undertaken based on the designations set by Dúchas. The EIS and the subsequent Article 14/16 submission have dealt with the provision of compensatory habitats in the area.

The site is designed in accordance with best practice and all discharges to surface water will be in accordance with emission standards. A section of the Sruhanpollandoo stream will be culverted adjacent the proposed landfill site and all other surface water arising from within the boundary of the site will be diverted to settlement lagoons and a constructed wetland prior to discharging to the Sruhanpollandoo stream. Surface water management in the area of the landfill is dealt with in detail in Section 6 and 12 of Volume 1 of the EIS.

B The EPA Inspectors report is totally biased

Item 6

As mentioned above the designation of Special Areas of Conservation (SAC) is undertaken by National Parks and Wildlife Service (Duchas).

Item 10.3

As stated in Chapter 10, 10.28-10.30 extensive bird surveys were undertaken in the area. The finding of these surveys in relation to the Golden Eagle is indicated in 10.50.

Item 10.1

The LandSim model reflects the conceptual model of the site and examines the environmental setting and layout/engineered design of the proposed landfill in context with the hydrogeological characteristics of the site. The volume of leakage through the landfill liner is considered in the LandSim model and is not predicted to be significant.

With reference to the issues raised regarding Sruhanpollandoo, Chapter 12 of the EIS identifies that surface water drainage of the proposed site naturally drains towards the Sruhanpollandoo. The site does not drain to the Gartan Catchment. The letters from Coillte and Teagasc were received in 2002 in response to a scoping study. The site investigation area indicated at that time included a larger area which does not form part of the proposed facility (see figure 5.2 of Volume 1 of the EIS).

C The rainfall figures for Meenaboll are again incorrect.

Rain data used in the EIS was taken from Met Eireann 1961-1990 Mean Average Rainfall for the site location. The containment of the site and the management of surface water has been designed in accordance with current best practice and is designed to allow for fluctuations in the annual rainfall at the site.

D The site at Meenaboll was not included in the Donegal County Council 2000 Donegal Waste Management Plan.

The Donegal Waste Management Plan, which was the subject of widespread public consultation, and adopted by the Council in 2000 identified the need for an additional 2 - 4 landfill facilities in Donegal, to provide secure long-term disposal for the County.

E No site selection criteria were established in the Donegal County Council 2000 Waste Management Plan.

The site selection process was carried out using EPA Draft Site Selection Criteria and also reference to the County Development Plan. The site was identified as the preferred location for a landfill to provide landfill capacity for the areas of West and Central Donegal.

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

OBJECTION 4 LOUGHS AGENCY

The Northern Regional Fisheries Board were contacted as part of the scoping process for the project. They wrote in a letter dated 29 July 2002 (see Volume II of the EIS, Appendix A), that the Meenaboll area was within the jurisdiction of the Loughs Agency. The Loughs Agency provided a written response (dated 14 November 2002) for the scoping process which set out their position in relation to the site. The site is designed in accordance with best practice and all discharges to surface water will be in accordance with emission standards hence the landfill site will not deteriorate the status of the surface water and therefore will be in compliance with the Water Framework Directive.

In relation to the Lough's Agency independent geologist report we wish to comment on the following. These submissions are numbered as per the report received in the objection:

Section 3.1 Hydrology (Surface Water)

- The hydrogeological investigations indicate that groundwater does not contribute significantly to the streamflow of the Sruhanpollando.
- The bed of the Sruhanpollando is generally restricted to a depth of less than 2m below adjacent ground-level, which locally penetrates the shallow peat cover that generally mantels the site to depths of less than 1m.
- The geological characteristics of the site indicate that the flow of the Sruhanpollando stream and tributary drainage ditches is principally maintained by incident rainfall and surface run-off, as well as seepage through the near surface peat horizons that provide storage.
- The groundwater monitoring data in the vicinity of the stream indicates that the peat deposits are saturated, and standing water levels lie close to ground surface. There is no evidence of a drawdown effect in the vicinity of the Sruhanpollando or any indication that it acts as a significant groundwater discharge boundary. Hydraulic contours indicate that the groundwater flow direction is principally influenced by the surface topography.
- The culverting of the Sruhanpollando will protect surface water quality and cut-off potential baseflow recharge in the vicinity of the landfill.
- The diversion of drainage ditches upgradient of the landfill will separate the surface water regime from the landfill area.

Section 3.2 Hydrogeology (Groundwater)

- The LandSim model reflects the conceptual model of the site.
- Hydraulic contours indicate that the groundwater flow direction is principally influenced by the surface topography. There is no evidence to indicate that the Sruhanpollando acts as a significant groundwater discharge boundary. The flow of the Sruhanpollando stream and tributary drainage ditches is principally maintained by incident rainfall and surface run-off, plus some seepage through the near surface peat horizons that provide storage.
- The peat cover and underlying boulder clays impede infiltration and downward migration of contaminants.
- The exploratory investigations indicate that groundwater flows are restricted to seepages to slight flows from non-extensive sand and gravel lenses and the fractured near surface rockhead horizon.
- The bedrock is classed a poor aquifer, and is generally regarded as impermeable. Groundwater movement is restricted to seepages to slight flows through the fractured

near surface rockhead horizon (<2m thick) and to a slow circulation through discontinuities (joints) in the more competent lower horizons.

- The groundwater drainage blanket is designed to intercept any seepage that occurs below the landfill liner. The system is designed to facilitate monitoring of water quality and recovery for treatment if necessary.
- The volume of leakage through the landfill liner is considered in the LandSim model and is not predicted to be significant. The leakage was based on a fixed head of 1m above the base of the liner to simulate worst case operational conditions, irrespective of rainfall levels.

Section 3.3 Hydrogeological Risk Assessment

- The LandSim model examines the environmental setting and layout/engineered design of the proposed landfill in context with the hydrogeological characteristics of the site.
- The LandSim simulation assumed an infiltration rate of 1500mm/year with a standard deviation of 150mm. This figure was derived from the 30 year standard annual average rainfall isohyetal contour map for the Donegal area, which is representative of long-term weather patterns. The rainfall figures were used to simulate post-closure conditions, with infiltration through the capping system. Operational conditions were based on assumed fixed head conditions of 1m, which was independent of rainfall.
- The simulation of the unsaturated zone was based on the thickness of groundwater drainage blanket at the base of the liner, which is considered appropriate. The simulation considered that no attenuation of contaminant parameters occurred within the unsaturated zone, which was based on unretarded conditions.
- LandSim model input parameters were based on a range of values that were related to the design and specification of the engineered containment and leachate management systems and related to EPA landfill design parameters. The selection of these parameters is fully justified in the LandSim model. On this basis the results of the LandSim model are considered to be valid, and an additional modeling exercise is considered unnecessary.
- The LandSim model indicates that the volume of leakage through the basal lining system based on the 95th percentile prediction is not significant, and impacts on groundwater at the compliance point fall within acceptable limits based on Interim Guideline Values set by EPA/GSI. In addition to mitigate potential impact on surface water quality, groundwater that is recovered from the drainage blanket will be tested and treated and filtered through the reed bed system before it is discharged to the Sruhanpollandoo, where a significant dilution would occur.

Section 4 Discussion of Possible Impacts on Fishery

- The section lists a number of factors that could potentially impact on the water quality and flow regime of the site, which relate to the construction phase and operational practices of the landfill. The issues raised were considered in the EIS for the facility and will be dealt with appropriately by site management practices and the provision of engineering measures, to ensure risks are maintained at a low level.
- The LandSim analysis indicates that groundwater quality will not be impacted significantly by the development of the fully engineered containment landfill site at Meenaboll.
- The hydrogeological investigations indicate that the Sruhanpollandoo stream does not act as a significant groundwater discharge boundary, and will therefore not be impacted by leakage from the base of the landfill.

- Culverting of the Sruhanpolladoo stream during the initial stages of construction will protect the watercourse from siltation and contamination, while other general precautions, such as the bunding of fuel stores will also be implemented to ensure good practice and mitigate potential impacts.
- On the basis of the above the impact on the Sruhanpolladoo it is considered that the impact on the Sruhanpolladoo will not be significant. Therefore no significant deterioration in water quality of the fishery waters downstream is anticipated and this is assessed to represent a low risk.

Section 5 Discussion of Relevant Waste Licence Conditions

- The section lists a number of conditions that relate to the protection of surface water quality. The conditions listed were considered in the EIS for the facility and will be dealt with appropriately by site management practices and the provision of engineering measures, to ensure risks are maintained at a low level

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

OBJECTION 6 AN TAISCE

An Taisce were contacted by letter as part of the scoping process for the EIS in July 2002. They did not formally respond to this correspondence, however a site visit was held with local representatives of the An Taisce on 3 November 2002.

Comments in relation to the objection from An Taisce are set out below and the same referencing has been as the correspondence from An Taisce.

Leachate Risk Posed by Suitability of Design and Specifications

The landfill site will be developed on a containment basis to meet the requirements of the EU Landfill Directive (1999/31/EC) using a composite lining system. It is now accepted practice, particularly with the advent of containment sites, for landfills to be designed and operated in a series of discrete phases. The site at Meenaboll will be developed with 5 Phases. Phases 1 and 2 will be developed with one cell in each while Phases 3, 4 and 5 will consist of two cells which will be designed to allow for efficient management of the leachate. The site will be operated to standards set out by the Environmental Protection Agency. The cells will be capped, after being filled to the final permitted levels, with a low permeability capping layer thereby minimising the generation of leachate in the existing waste body.

Stability of peatland Site Conditions in maintaining Membrane Stability and impermeability.

Peat stability issues were examined in a Peat Stability Report (June 2005) prepared by RPS, which was issued as an addendum to the EIS. This report was based on an assessment of the terrain characteristics, hydrology and ground conditions, indicated by a detailed exploratory investigation, which were compared with the conditions, reported at the site of the Derrybrien Windfarm peat slide.

No evidence of peat instability was noted during the site surveys and it was concluded that the overall risks of peat instability within the study area are low. To ensure that risks are maintained at a low level during construction of the landfill a range of mitigating measures will be implemented. These will include management of surface run-off, restriction of plant movement to properly designed haulage roads, strict control and management of earthworks and dewatering operations.

The operational landfill will be based below the peat and surrounded by properly engineered and lined containment bunds. In addition to this leachate levels and surface run-off will be controlled and managed by the implementation of appropriate drainage systems. Following this, it is considered that the stability of the peat bogs would gradually return to a status of equilibrium, which would largely reflect the prevailing pre-construction conditions and risks. Therefore the risks to the integrity of the lining system from potential peat instability are considered to be low.

Issues with regards to Habitat Directive.

As mentioned previously the designation of Special Areas of Conservation (SAC) is undertaken by National Parks and Wildlife Service (Duchas).

Issues with regards to the Water Framework Directive

As per submission to Objection 4

Relevance of EPA Licence Determination on Lickey Landfill

As per previous comments regarding Habitats Directive.

Requirement to adopt the Precaution Principle

An improved surface water management system will be established in the vicinity of the site to minimise the impacts on water quality and quantity in the adjacent watercourses and downstream in the River Finn.

Prior to any construction work commencing on site settlement lagoons and Constructed Wetlands will be developed at the facility. This will assist with ensuring sediment transport off site is minimised. The Sruhanpolladoo stream, which runs adjacent to the landfill area will be culverted through the site to prevent the possibility of sediment entering the stream.

The ongoing monitoring of surface water quality at the landfill site will be continued, ensuring the effective management of the drainage system.

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