

INSPECTORS REPORT
WASTE LICENCE REGISTER NUMBER 53-1

(1) Summary:

Name of Applicant	Noble Waste Disposal Ltd.
Facility Name (s)	Fassaroe Landfill
Facility Address	Fassaroe, Bray, Co. Wicklow
Description of Principal Activity	Deposit on, in or under land (including landfill) and a transfer station.
Quantity of waste (tpa)	105,000 (landfill and transfer station)
Environmental Impact Statement Required	Yes
Number of Submissions Received	5
INSPECTOR'S RECOMMENDATION	The proposed decision as submitted to the Board be approved.

Notices	Issue Date(s)	Reminder(s)	Response Date(s)
Article 14 (2) (b) (i)	Not applicable		
Article 14 (2) (b) (ii)	9 th December 1998	16 th March 1999	12 th January 1999 23 rd March 1999
Article 14 (2) (a)	13 th April 1999		
Article 16	9 th April 1999 6 th July 1999	31 st May 1999	23 rd June 1999 13 th July 1999

Applicant Address	Fassaroe, Bray, Co. Wicklow
Planning Permission status and date granted (if appropriate)	Applying for planning permission
Planning Authority	Wicklow County Council
Is the facility an existing facility:	No but waste activities have been carried out at the facility.
Prescribed date for application:	Prior to 1 st May 1997
Date Application received:	4 th August 1998
Location of Planning Documents in Application	Attachment B.3
Location of EIS in Application	Volumes 1, 2 and Plans

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
31/8/98	Check site notice	M. Keegan	Site Notice did not comply with Art. 8
19/10/98	Site visit and to re-check site notice	M. Keegan	Visit site and surrounds and Art 8 compliance

(2) Class/Classes of Activity

The class(es) of activities for which the applicant has applied are marked below. The principal activity is indicated by (P), other activities by (X).

Waste Management Act, 1996			
THIRD SCHEDULE Waste Disposal Activities		FOURTH SCHEDULE Waste Recovery Activities	
1. Deposit on, in or under land (including landfill).	P	1. Solvent reclamation or regeneration.	
2. Land treatment, including biodegradation of liquid or sludge discards in soils.		2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	X
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring repositories.		3. Recycling or reclamation of metals and metal compounds.	X
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.		4. Recycling or reclamation of other inorganic materials.	X
5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.		5. Regeneration of acids or bases.	
6. Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.		6. Recovery of components used for pollution abatement.	
7. Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.		7. Recovery of components from catalysts.	
8. Incineration on land or at sea.		8. Oil re-refining or other re-uses of oil.	
9. Permanent storage, including emplacement of containers in a mine.		9. Use of any waste principally as a fuel or other means to generate energy.	
10. Release of waste into a water body (including a seabed insertion).		10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.	
11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	X
13. Storage prior to submission to any activity referred to in this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.	X	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.	X

Class description:

Third Schedule

Class 1. This activity is limited to the disposal of the waste types specified in *Condition 5*.

Class 11 This activity is limited to the mixing of household and commercial/industrial wastes prior to compaction.

Class 12 This activity is limited to the compaction of waste prior to the removal off site to landfill.

Class 13 This activity is limited to the storage of commercial/industrial and domestic waste, prior to disposal at an alternative appropriate landfill facility, of wastes not acceptable for disposal at this facility.

Fourth Schedule;

Class 2 This activity is limited to the proposals for the recycling of plastics on-site.

Class 3 This activity is limited to receipt, holding and collection of metals and wire found in construction and demolition wastes

Class 4 This activity is limited to receipt, holding and reusing inert construction and demolition wastes such as clay, topsoil, broken concrete and asphalt.

Class 13 This activity is limited to the storage of inert materials such as glass, aluminium cans prior to processing and reuse.

Activities recommended for licensing:

It is recommended that all the above activities, for which the applicant has applied for a waste licence, be licensed subject to the Conditions contained in the attached Proposed Decision.

(3) Facility Location

Appendix 1 contains a location drawing and a layout drawing showing the significant features of the facility.

The facility which contains a waste transfer station and an inert landfill is located in the townland of Fassaroe on the Dublin Wicklow border. It is 3km west of Bray town and 2 km east of Enniskerry and is adjacent to the M11 motorway on the Dublin to Wexford road.

The facility is located in a worked out sand and gravel pit which has been backfilled. Waste handling and waste transfer buildings and offices are now constructed on the some of the previously backfilled area. This backfilled material was predominantly inert

however the investigations for the waste licence application indicate some biodegradable waste present in one area.

The northern part of the facility slopes steeply to a valley and this area is covered by trees and scrub. The eastern side is bounded by the road whereas the western and southern area slopes gently to the south and east and they are under crops.

The surface water drainage is to the Glenmunder river which ultimately drains to the River Dargle. The aquifer classification for the facility is a locally important sand and gravel aquifer with a vulnerability rating of high. The sand and gravel deposits are underlain by bedrock strata comprising slates, phyllite, schist, basalt, breccia and quartzites.

The nearest residential dwellings are located to the southern side of the facility. There are two occupied premises located adjacent to the access road and five others are located at a minimum of 60 m from the southern boundary of the site. However, the active tipping area and the waste transfer station building are approximately 180m from these premises.

(4) Waste Types and Quantities

The expected life of the facility and the expected maximum annual tonnage are indicated below.

Expected life of the facility, (in years)	at least until 2010
Maximum Annual Tonnage	50,000 - landfill 55,000 - transfer station

(5) Activity Summary

The applicant states that the disposal of inert material to restore the old workings was commenced prior to October 1964 and therefore was deemed authorised. However, the applicant also states that it has applied for planning permission because of its intensification of the disposal activity. This planning permission has not been decided upon. The applicant had a permit under the European Communities (Waste) Regulations 1979 (SI No. 390 of 1979) for the period 31st March 1997 to 30th April 1998. The application was received on the 4th August 1998.

Two different operations are currently being carried out at the facility. These are operation of a transfer station and an inert landfill.

The facility handles domestic, commercial/industrial and inert (C&D) waste. All waste arriving on-site is classed as either recyclable or disposable. The recyclable fraction is stored on site prior to its removal to the appropriate recycling facility. The remainder of the waste is separated into inert and non-hazardous waste. The inert fraction is landfilled on site and the remainder is sent to Ballymurtagh landfill.

The applicant proposes to extend the transfer building to cater for the storage of glass, cardboard and other recyclable fractions. It is intended to construct a new shredding/sorting building (*Condition 4.13*) and a new plastic recycling building (*Condition 4.14*) is also proposed which will be used to recover all plastic material on site. Another building will be dedicated for householders and shopkeepers to dispose of their waste. The hard standing area will be extended and all fuels and cleaning agents will be stored in a bunded area as specified in *Condition 4.12*. All these works will be controlled by *Condition 4.22 Specified Engineering works*.

(6) Facility Operation/Management

• Waste Acceptance and Handling

All vehicles carrying wastes are checked by the gate operator. A docket system is in place which identifies the origin of the waste and then the waste load is weighed by the weighbridge.

Recyclable waste is stored for recycling and non-hazardous waste is sent to Ballymurtagh landfill. Only inert waste is allowed to be disposed of at the on site landfill, as specified in *Condition 5.2*. The handling of waste is controlled by *Condition 5* of the PD.

Domestic and Commercial

Domestic waste is deposited into open trailers on site and transferred to the County Council landfill at Ballymurtagh. The industrial/commercial waste stream is directed to the transfer station and is either categorised as recyclable cardboard, bottles, domestic waste or compactor waste (from supermarkets). All contaminated packaging is sent off site to Ballymurtagh landfill.

The applicant's policy is to request that commercial organisations operate a waste segregation programme. All uncontaminated cardboard and packaging waste is baled and recycled. Bottles are segregated and stored prior to removal for recycling off site. Wood and metal waste are sorted into separate piles for recycling off site. The domestic waste element is treated as above.

Waste remains on-site for a maximum of two hours during operation hours but as the last trailer leaves the facility at 4pm any refuse that arrives after this is stored overnight in closed trailers at the facility or in open trailers within the transfer station building. Recyclable waste is, where possible, stored in separate areas until being taken for recycling. This will be controlled by procedures required by *Condition 5.7*.

Construction and Demolition Waste

Construction and demolition waste is directed to the waste segregation area adjacent to the active tipping area. The inert material is sorted and any unsuitable material (non-

inert) is separated out using a grab machine and brought to Ballymurtagh landfill. The recyclables are stored on-site prior to removal off site and the rest of the material is shredded and screened as detailed above. The Extec screening plant is used to sort topsoil from other inert waste material. The “topsoil” material is used as final cover or is sold for agricultural/horticultural purposes. The over size material is used for internal roads or disposed of in the inert landfill. Any natural stone is recovered for the landscaping sector. The recycled materials are temporarily stored on site.

Mixed waste (waste product, wood, metal and other material of a bulky nature not suitable for compaction) undergoes a rough segregation where wood and metal are sorted by a grab machine for removal off site for recycling. The remained goes to a shredder then to a Trommel system and finally to an Extec screener. The oversize material is disposed of at the landfill (Ballymurtagh) and the smaller size fraction (which is mainly topsoil) is used as cover in the onsite inert landfill.

- **Nuisance Control**

Potential nuisances are controlled by *Condition 6 Environmental Nuisances*. The landfill will not be permitted to accept putrescible wastes. This will minimise the attraction for birds and vermin. The shredder does not operate on windy days and the proposals to locate the shredder under cover will minimise any potential litter problems. Odour will be controlled by *Condition 6.9*, which requires that activities be carried out in such a manner that odours do not result in significant impairment of, or significant interference with amenities or the environment. The access road, internal roads and hardstanding are continuously cleaned to minimise the carrying of mud off site. Scavenging is not allowed at the facility (*Condition 5.22*).

- **Hours for Waste Acceptance**

Monday to Saturday **7.30 to 18.00** inclusive (excluding Bank Holidays). Any changes in these hours are subject to the prior written agreement of the Agency.

(7) Facility Design

- **Infrastructure;**

The boundary of the facility is delineated by fencing which links into the gated entrance. The entrance is controlled during operational hours by a gate operator. Outside operating hours a security guard is present on-site and CCTV's are located strategically around the facility. The site entrance road is tarmacadamed. The internal haul roads are constructed of rubble and stone. The main infrastructure within the facility includes a car park area, offices, transfer station building, weighbridge, waste segregation areas and hard standing areas. The applicant intends to extend the transfer station, enclose the waste screening process, erect new offices and a plastics recycling building. The provision of this infrastructure and its maintainence is subject to *Condition 4 Site Infrastructure*.

- **Liner System;**

The lining system for all future areas/cells is specified by *Condition 4.15* and will consist of a base and side wall mineral layer of minimum thickness of 1m with a minimum hydraulic conductivity of less than or equal to 1×10^{-7} m/s or a 0.5m artificially enhanced soil or similar giving equivalent protection to the foregoing as required by the landfill directive.

- **Leachate Management;**

The applicant stated that some biodegradable waste was deposited historically at the landfill. Monitoring results show only traces of leachate at one location which has been attributed to this historic biodegradable waste. An analysis of an eluate sample from the fines being deposited at the landfill shows that there is no evidence of biodegradable material within this waste. The results shows elevated levels of two inorganic substances (sulphate and potassium) in comparison to published inert leachate analysis which may be due to concrete and soils in the waste. *Condition 5.2* only allows the landfilling of inert wastes and therefore the leachate generated should not cause environmental pollution. The lining system outlined above will protect the groundwaters and surface waters. *Condition 4.16* requires proposals for leachate management, particularly in relation to the historic landfill area, to be submitted for the protection of groundwaters and surface waters within six months.

- **Landfill Gas Management;**

As stated above only a small amount of biodegradable waste was historically deposited at the landfill. The information submitted suggests that there may only be a small amount of landfill gas generated at the site. *Conditions 7.1 and 7.6* set out the landfill gas emission limit values and trigger levels respectively for the facility. Results submitted indicate elevated carbon dioxide and depleted oxygen levels in one borehole (GS-04) located behind the transfer station building. No methane has been detected in any of the boreholes at the facility. However, additional landfill gas monitoring points shall be installed in accordance with *Condition 4.17* and monitored at the frequency outlined in *Schedule F* of the Proposed Decision (PD) to detect any potential migration. *Condition 9.5* requires the installation of a permanent landfill gas monitoring system in the present office and also in the new office prior to its occupancy. *Condition 4.18* requires that each phase be capped with 500mm of topsoil. *Condition 10.6* requires further action, including investigations and remedial action to be taken if trigger levels or emission limits are exceeded.

- **Capping System;**

The capping system proposed is adequate in thickness and composition. *Condition 4.18* requires that the capping system as outlined in *Attachment D.6 of the application* shall be installed on completion of each phase.

(8) Restoration and Aftercare

The final profile of the facility is controlled by *Condition 8.1* and *Condition 8.2* requires a detailed restoration and aftercare plan for the site to be submitted within twelve months of date of grant of the licence.

(9) Hydrogeology

The facility is underlain by a locally important sand and gravel aquifer which is highly vulnerable. Four boreholes were drilled ranging in depth from 4 to 13 metres. Borehole 1 is dry. Boreholes 2 and 3 are located downgradient of the north western active tipping area and intersect a gravel layer. The groundwater analyses indicate that iron and manganese exceed the drinking water MAC.

Borehole 4 is drilled into made ground of gravelly clayey silt and gravelly sandy silt. It is located at the southern end of the compound adjacent to existing buildings and has the following exceedances of the drinking water MAC; conductivity, ammonia, sulphate, potassium, iron and manganese. The groundwater quality improves as it moves in a north eastern direction towards the river as shown in the results for BH 2 and BH3. *Condition 9.4* requires that additional monitoring boreholes be installed up-gradient of any historic landfilling and also down gradient of the landfill and the septic tank system in close proximity to BH1. It should intersect a water bearing unit so that the quality can be examined and continually monitored. The existing and future groundwater monitoring boreholes will be monitored at the frequencies outlined in *Schedule F*.

(10) Emissions to Air

The two activities at the facility may give rise to air emissions. Dust and odours may emanate from the transfer station and similarly these emissions and some landfill gas may arise from the landfill. There are proposals to enclose the waste acceptance area the transfer station and the Tromel and Extec screening plant thereby reducing the potential for the migration of dust and odours. Dust control is required by *Condition 6.8 and 6.9*.

Landfill gas may arise from the area where there has been historical landfilling of biodegradable waste and *Condition 4.17* requires an assessment of the extent of landfill gas and proposals for additional monitoring. *Schedule F.1* requires monitoring of gas within all enclosed buildings and boreholes. *Condition 7.1* sets emission limits for landfill gas detected in buildings and for dust deposition.

(11) Noise Emissions

Noise emission limits are established by *Condition 7.1* and *Condition 7.3* requires that there shall be no clearly audible tonal component in noise emissions from the facility. Noise monitoring of the facility is required by *Condition 9.1*.

(12) Emissions to Sewer

There are no direct emissions to sewer. Sewage emanating from the toilet facilities on site receive primary treatment in a septic tank and is collected in a sump and pumped to a biofiltration system for secondary treatment. The effluent receives tertiary treatment over a soil percolation area. An additional borehole as required by *Condition 9.4* will be located downgradient of the septic tank system.

(13) Emissions to Surface Water

There is no direct emission to surface water from the facility. Surface water runoff and shallow groundwater makes its way diffusely to the Glenmunder river adjacent to the site. The Glenmunder river is a tributary of the Dargle river which is a designated salmonid river, however, analysis show that the quality of the surface water complies with the salmonid standards and future monitoring will include all the required parameters for salmonid waters.

From the data submitted by the applicant the quality of the surface water in the Glenmunder river is generally good with the exception of elevated nitrate, zinc and TOC in some of the samples. The sources of the contamination have not been confirmed with the levels of nitrate and TOC being lower downgradient of the facility than upgradient. The downgradient analysis indicate elevated levels of calcium, chloride, magnesium, cadmium(List I), potassium, sodium, alkalinity in relation to the upgradient sample but they are all below the MAC for Drinking Waters.

The shallow groundwaters discharge to the river and analysis indicate that there are some elevated levels of iron and manganese in the groundwater but this does not appear to affect the surface water. *Condition 9.1* requires monitoring of surface waters according to the frequencies and locations outlined in *Schedule F*. *Condition 4.19* requires an ongoing management programme to control surface water run off from the facility.

(14) Other Significant Environmental Impacts of the Development

None.

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

No relevant waste management, air quality or water quality management plans exist.

(16) Submissions

An overview of all submissions received in relation to the waste licence application is provided. This includes a summary of all issues raised in the submissions and shows how these issues are dealt with in the proposed decision.

16.1 Summary of submissions

1. The Agency received four letters from various sections of *Dúchas*: The Heritage Service.

Two of these letters offered no comment or objection to the application, namely those from Mr. John Fraher, Countryside Protection Unit, dated the 17th December 1998 and Ms. Deirdre Byrne, Countryside Protection Unit, dated the 6th August 1999.

The other two letters from Ms. Maeve O'Callaghan, National Monument and Historic Properties Section, dated 11th May 1999, and Ms. Ann Murray, National Monuments Section, dated 21st July 1999 are detailed as follows;

1. The submission concerned one principal issue relating to the archaeology of the site. They have submitted a copy of the recommendations that they suggested be attached to the waste licence as follows:
 - *The applicant shall send written notification to the National Monuments Service Dúchas The Heritage Service, of his/her intention to carry-out site preparation works at the proposed development site at least four weeks in advance of the commencement of works.*
 - *The applicant shall employ an archaeologist to carry out Archaeological Monitoring of all top soil removal carried out within the proposed development site. The archaeological monitoring shall be carried out under licence to the National Monuments Service, Dúchas the Heritage Service.*
 - *Should archaeological material be discovered during the course of Archaeological Monitoring the applicant shall facilitate the archaeologist in fully recording this material. The applicant shall also be prepared to be advised by the National Monuments Service, Dúchas the Heritage Service, with regard to the appropriate course of action should archaeological material be discovered.*
 - *The archaeologist shall prepare and submit a report describing the results of the Archaeological Monitoring to the Local Authority and the National Monuments Service on completion of Archaeological Monitoring.*

Response: *Condition 9.13* of the PD takes into account the above recommendations.

2. In addition to the submissions from Duchas, Mr. Peter Sweetman requested in a letter dated the 25th June 1999 that he be informed when a PD is granted or refused.

Response: Mr. Sweetman will be notified of a decision accordingly.

Signed: _____

Dated: _____

Ms Margaret Keegan

APPENDIX 1

1. LOCATION DRAWING

2. LAYOUT DRAWING

APPENDIX 2

SUBMISSIONS