INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER 61-2

Facility: Mr. Binman Waste Transfer Station

Recommendation: That the proposed decision as recommended to the Board be approved.

(1) Introduction:

The application from Mr. Binman Ltd. is for a review of the licence for an existing waste transfer station. The Proposed Decision is to allow an increase of the allowable annual tonnage throughput at the facility from the current 24,000 tpa to a maximum of 105,000 of commercial, industrial, domestic and construction and demolition wastes. The facility is located at Luddenmore, Grange, Kilmallock, Co. Limerick and is approximately ten miles from Limerick city. The proprietor lives adjacent to the facility and has farmland and livestock adjacent to the facility.

The classes of activity applied for are Classes 12 (the principal activity) and 13 of the third Schedule and Classes 2, 3, 4, 10 and 13 of the fourth Schedule of the Waste Management Act. The recommended PD recommends that all Classes of activity be licensed.

Quantity of waste (tpa)	87,500 tpa (max) with possible stepped increase to 105,000 from 2005 onwards.
Application received	21/03/01
EIS Required and valid	Yes. The EIS has been assessed in accordance with the EIA Regulations and I am satisfied that it complies with Article 25 of the EIA Regulations.
Planning Permission status	Granted, exceeded the building size as per planning permission and applied for retention.
Number of valid submissions received	15

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
18/04/01	Site notice check	MMcH	Site notice incorrect
14/05/01	Site notice check	MMcH	Site notice correct
31/07/01	Site inspection	MMcH	Non compliance issued (61-1NC04MMcH)
20/02/02	Site inspection, noise monitoring	MMcH, RC, DS	Non compliance issued (61-1NC06MMcH), noise monitoring report issued
15/08/02	Noise monitoring	JG	Noise monitoring report issued

(2) Facility Development

Infrastructure
A significant amount of waste handling and recycling infrastructure has been put in plae at the facility over the past 2-3 years. There is currently a waste transfer building, two hopper and compacter units, two balers, a picking station for separation of recyclables, a glass crushing plant, a weigh-bridge, a vehicle wash area, a fuel storage area, and a waste water treatment plant at the facility.

The licensee proposes to introduce a timber shredder, a rubble crusher, a trommel and civic amenity facility at the site over the coming years. As the licensee does not intend to install a trommel or rubble crusher at the facility within the next twelve months no details of these items of plant were not included in the licence application. Similarly no details of the proposed civic waste facility were included in the application. Therefore these items of plant are listed as Specified Engineering Works in Schedule B of the draft PD.

Restoration and Aftercare
In accordance with Condition 4, the licensee will be required to submit a proposal for a Decommissioning and Aftercare Plan for the facility within eighteen months of the date of grant of the licence

Nuisance Control
Nuisances are controlled by Condition 7 of the draft PD.

- **Facility Operation**

Facility Operation

Hours of Operation
Under the existing licence the facility's working day is specified as follows: Monday to Friday 8.00a.m. to 6.00p.m., Saturday 8.00a.m. to 2.00p.m. At present however, trucks leave the site before 8.00a.m. The licensee proposes that under the reviewed licence the operating hours will be extended to 8.00a.m. to 6.30p.m. Monday to Friday with the first trucks leaving the facility at 7.00a.m. Under the reviewed licence the hours for waste acceptance will be specified as well as the hours of operation which will include the start of working day at the facility (including the time when vehicles start to leave the facility in the morning).

The issue of noise generated by truck movements in the early morning is the subject of several submissions and has been the subject of complaints in the past. For this reason

the hours of operation, as they affect the noise environment are dealt with in greater detail under the heading of 'noise' below.

(3) Waste Types and Quantities

The licensee's most important reason for applying for a reviewed licence was to increase the allowable annual tonnage for the facility. The facility is currently licensed to accept 23,000 tonnes per annum comprising 13,000 tpa commercial, 10,000 tpa domestic and 1,000 tpa C+D. The licensee is currently accepting more that twice the allowable annual tonnage of waste at the transfer station as the current domestic waste intake is 41,800 tpa and the total current waste intake is exceeding 50,000 tpa.

The licensee estimates that by the end of 2004 the facility will be accepting 87,500 tpa of waste and that by the end of 2007 this figure will have risen to 105,000 tpa and the licensee is therefore applying for the higher amount.

With regard to assessing the capacity of the facility to process waste, reference was made to a USEPA document entitled 'Waste Transfer Stations: A Manual for Decision-Making' (2002). In this document, formulae are given for determining waste transfer station capacity. A copy of these formulae is included as Appendix 3. In this example the hopper/compactor stations formula shown in Appendix 3 is used. As some of the figures used in the formula were estimated, both worst and best case scenarios were estimated and the result is a range of possible tonnage capacities for the transfer station as follows:

$$C = (Nn \times Pt \times Fx\ 60 \times Hw) / (Pt / Pc \times Tc) + B$$

(1) $C = (2 \times 25 \times 0.265 \times 60 \times 10) / (25 / 12.5 \times \underline{10}) + \underline{15}$ = **65,000 tpa** approx.

(2) $C = (2 \times 25 \times 0.265 \times 60 \times 10) / (25 / 12.5 \times \underline{6}) + \underline{11}$ = **99,000 tpa** approx

Both calculations used above assume that two hopper and two hopper/compactor units are used because there are at present two hoppers and compactors at the facility, but they differ in the estimated time in minutes to unload each collection vehicle and the estimated time in minutes to remove and replace each unloaded trailer.

Only one of the two hopper/compactor units present as currently being used at the facility. If the above calculations were done incorporating only one hopper/compactor unit in the equation the results would be as follows: 32,481 tpa approx. and 49,426 tpa approx. The facility is at present operating at an annual tonnage throughput of over 50,000.

The peaking factor 'F' used in the equation is the ratio of the number of collection vehicles received during an average 30-minute period to the number received during a peak 30-minute period. Changes in the estimated peaking factor exert a strong influence over the final capacity figure. The above examples use a peaking factor of 5.3 : 20 = 0.265.

It is therefore concluded that the facility should be licensed initially for a total of 87,500 tpa as this is the tonnage which the licensee estimates will be required by the end of 2004. A proposal for a stepped increase over this tonnage to a theoretical maximum of 105,000 tpa would not be considered until at least 2005 and would be subject to the following:

- the licensee would have to provide a report to show, to the satisfaction of the Agency that the facility is capable of dealing with the proposed tonnage increase, and complying with the conditions of the licence;
- written agreement from the Agency of the Agency's satisfaction with the compliance with the licence, and the capacity of the facility to deal with the propsed tonnage.

These requirements are stipulated in Condition 11.4 and Schedule A of the draft PD.

(4) Emissions to Air, Including Noise

Air
Dust emissions will be limited by the fact that waste handling will largely take place indoors, in the waste transfer building.

Noise
At present the hours of operation at the facility are as follows: Monday to Friday 8.00a.m. to 6.00p.m., Saturday 8.00a.m. to 2.00p.m. but trucks leave the site before 8am. The current licence specifies the hours for waste acceptance only, and there is therefore no control at present over the hours during which trucks leave the facility. The early morning noise caused by trucks starting up and leaving the facility appears to cause a nuisance locally as this issue was raised in several submissions (see below) and has been the subject of complaints, including complaints about trucks leaving the facility very early in the morning.

On the morning of the 15th of August 2002 noise monitoring was carried out by the EPA to ascertain the effect on the noise environment from the facility at start-up time. The 15th of August 2002 was a typical day of operation at the facility and it was confirmed by Limerick County Council that the typical number of loads of waste were delivered by Mr. Binman Ltd to Gortadroma landfill on that day. Monitoring for 30 minutes at each of three private residences situated near the facility, commenced at

6.50am. A survey of traffic using the local road was also conducted during the monitoring period. A copy of the noise monitoring report is included as Appendix 2.

The monitoring carried out prior to 8am showed breaches of the night-time noise emission limits with $L_{Aeq(30)}$dB of 64.7 and 54.7 for two of the noise sensitive locations (NSL2 and NSL3) (local residences). At NSL2 it was noted however that although noise from the facility was audible at this location the main contributor to the noise levels recorded was from traffic generated outside the facility either from passing cars or from trucks from the local concrete manufacturing company. At NSL3 traffic travelling along the nearby road was the main contributor to noise levels recorded with noise generated by farm animals in an adjacent field also contributing. Noise monitoring at NSL1 took place after 8am and was not in breach of day-time noise emission limits. One of the occupants of the house at NSL1 stated that noise did not cause a problem at that location.

The noise monitoring report states that it was evident during monitoring that traffic on the public roadway and heavy vehicular traffic associated with a concrete manufacturing company in the vicinity were more significant at the three NSLs than noise generated within the facility. It is therefore considered acceptable that the hours of operation of the facility, including the commencement of truck movements should commence at 7am with the hours for waste acceptance commencing at 8am. The definition of hours of operation in the interpretation of the PD specifies that this includes the time during which trucks leave the facility in the morning. However, Condition 7.6 of the PD prohibits the use of noise generating equipment etc. at the facility until 8.a.m. each morning.

The main source of noise at the facility during the noise monitoring period on 15/08/02 was the operation of an excavator. However, during noise monitoring carried out by EPA staff on 20/02/02 during the late morning and afternoon it was noted that the main source of noise at the facility was the glass processing unit. Monitoring at that time showed that at a location of 10 metres south of the hopper that feeds the glass unit the $L_{Aeq(10)}$ was approximately 78 dB(A). This was audible at NSL2. For this reason Condition 3.8 requires that the glass processing plant area and the glass and bottle storage areas shall be enclosed within six months of the date of grant of the licence. The enclosure of this area was not proposed by the licensee.

(5) Emissions to Groundwater

Emission to groundwater from the facility will be from two sources. Firstly runoff from all hardstanding areas of the facility which are not used for the handling and storage of waste will discharge to a soakpit via a silt trap and a Class 1 oil interceptor. Secondly runoff from all areas which are used for the handling and storage of waste, and discharge from canteen and toilet facilities should be directed to the on site wastewater treatment plant (WWTP). Clean roof runoff should not be discharged via a treatment system.

At present all runoff generated at the facility, including clean roof runoff is directed to the onsite WWTP, which is flooding. This issue was not reported to the Agency as an incident but was mentioned to the Inspector during a site inspection in 2002. Consequently a number of questions regarding the operation of the WWTP were asked under an article 16 notice. A detailed submission was received from Limerick County Council on this issue.

A number of complaints were received in relation to an occasion when the pipework of a local group water scheme was damaged due to the operation of farm machinery on land owned by the managing director of the WTS, adjacent to the WTS. The group water scheme water (also used by the licensee) was consequently contaminated with e-coli. This raised concerns amongst local residents with regard to the potential for contamination by the WTS of their group scheme water.

These issues are controlled by Conditions 3.10 and 5.7 of the draft PD.

(6) Emissions to Surface Water

There are no emissions to surface water from this facility.

(7) Other Significant Environmental Impacts

Compliance history of the licensee: the licensee's compliance history in relation to the existing licence has generated concern in the local community. This is highlighted in some of the submissions received from members of the public. In particular the licensee has been operating at more than double the allowed annual tonnage. When the application for the review of the waste licence was made, delays in receiving responses to Agency requests for further information were experienced at various stages.

The licensee also needs to greatly improve the relationship between the facility management and members of the local community in terms of an improved communications programme and a system for dealing appropriately with complaints.

Nonetheless it is the opinion of the inspector that a substantial increase from 24,000 tpa to 87,500 tpa should be granted to the licensee in the first instance with the potential for further increases from 2005 onwards. The licensee has made considerable investment in the facility in terms of the installation of plant and equipment for recycling, for example a glass plant for the crushing of glass destined for recycling, and can and cardboard baling equipment. The licensee is also operating a successful pilot scheme, the only one of its kind in Limerick for the door to collection of recyclables, which are brought to a picking station on site for further segregation.

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

Air Quality Management Plan

None

Water Quality Management Plan

A 'Water Quality Management Plan for the Lower Shannon Catchment' was published in 1990, predating the establishment of the EPA and waste licensing in Ireland.

Waste Management Plan
The relevant Plan is the Waste Management Plan for Limerick/Clare/Kerry Region, adopted September 2001. The plan identifies the need for a regional approach to waste management and the benefits of partnership between Local Authorities and the private sector. For example, some of the specific objectives of the plan are to provide door to door collection of recyclables in towns with a population of greater than 1,500 as well as to provide recycling facilities. The applicant is currently operating the only scheme with door to door collection of recyclables in Limerick. These recyclables are brought back to the picking station at the waste transfer station and sorted into their separate components for recovery offsite. The plan refers to the benefits of public-private partnership and to the role of the Mr. Binman facility, and other private operators in providing waste collection services in Limerick city and county.

(9) Submissions/Complaints

SUBMISSIONS BY GENERAL TOPIC HEADING

Submissions from local residents

1. ***Increased traffic****, including traffic commencing before 7a.m. which is a breach of the existing licence. Other submitters said that traffic commences at 5.30am daily and before 8am daily. Noise and disturbance is being caused by a constant stream of truck traffic passing residents' houses. One submitter stated that a heavy vehicle uses the local road once every two minutes. This makes it difficult for residents, particularly small children to go out walking or ride their bikes.*

Response: Under the existing licence the hours for facility operation are not specified. Under the conditions of the draft Proposed Decision both the hours for facility operation and waste acceptance are specified so that, for the first time, the time that trucks movements from the facility commence will be controlled. It should be noted that this is relevant only as it pertains to for example noise generated within the facility boundary as the Agency has no jurisdiction outside the boundary to which the licence relates.

2. ***Existing road network*** *is totally* ***inadequate*** *to sustain the current level of truck movements. It is s rural area without footpaths and if traffic levels are allowed to increase it will have serious safety implications for residents and other road users.*

Response: While is it acknowledged that an increase in allowable annual tonnage will result in an increase in traffic on local roads the Agency is not the relevant authority in relation to roads.

3. ***Increased risk of pollution due to spillage and potential pollution of the Ballybricken Water Scheme***. *In wet weather surface water can be seen emanating from the premises. On the 28th 2001 Sept a break in a group water scheme distribution pipe on Mr Binmans premises occurred which resulted in dirty brown silted water being distributed to households in the area. This serious potential risk of contamination to our water is unacceptable, as we have recently had a case of E-Coli in our water supply due to a similar occurrence. The incident totally rebuts the report by Anthony Lawlor Senior Environmental Health Officer with the Mid-Western Health Board Cappamore, in which he states that there is no evidence of any significant negative impact on public health arising from the present operation at these premises (See submission from Mid-Western Health Board below). We have grave concerns over Mr Binman Ltd's ongoing developments in the locality and the potential risk of pollution from its activities given that the reservoir, distribution pipes and wells are located both on and in close proximity to the premises. The wells are downslope from the North Gate and polluted looking water has been observed flowing down the road towards these wells.*

Response: The Agency made enquiries in relation to the damage to the group water scheme pipework and were told by the licensee that the damage was caused by farm machinery in a field adjacent to the transfer station, also owned by the licensee. Nonetheless Condition 5.7.5 requires that the exact location of the local group water scheme pipework in the environs of the facility should be discovered and permanently represented on the ground surface in some way. If it is found that the pipework intersects the boundary to which the licence relates it should be relocated to a point outside of that area. This should be reported to the Agency.

4. ***Queries from the public were dealt with inappropriately:*** *After the break which occurred in the group water scheme distribution pipes, as described above one submitter was unhappy with the response received from the licensee and felt that the licensee was trying to give the impression that the farmland on which the break occurred was well away from the Transfer Station yard whereas in fact it is close by. On another occasion the same submitter made a query in relation to noise from the glass recycling plant on-site. 'I spoke with Mr. Sheahan Snr. On that day enquiring what the noise was and I felt that my query was very poorly dealt with. I informed you of same. As a result of my exercising my public right to enquire and complain to the EPA, I received a solicitors letter from Mr. Binman Ltd. requesting that I not discuss the operation with third parties and that they found it unacceptable that I contacted the EPA'. While the submitter acknowledges the fact that the noise issue was consequently rectified she considers that annual monitoring of noise is completely inadequate.*

Response: The submitter in question was within her rights contacting both the Agency and the licensee. In fact the licensee is bound by the licence to deal with complaints in an appropriate fashion and a non-compliance (61-1NC06MMcH) was issued in relation to the record of that complaint not having appropriately addressed the information required by the licence (Condition 3.12(d) and (e) of the existing licence (61-1)). The licensee is also required to have in place an appropriate communications programme.

5. ***Planning Considerations****: Mr Binman is not in compliance with the current planning permission for the development. It is suggested that a new licence should not be granted until the planning authority has arrived at a decision. Furthermore the planning permission will expire on 31st July 2004.*

Response: The process of waste licensing is entirely independent of the planning process.

6. ***Potential for air pollution****, including noise from increased dust emissions from trommel and timber shredder.*

Response: The emission limits set out in Schedule C, table C.1 will apply to the facility. The licensee is required to monitor the noise levels at the facility quarterly and the Agency will also conduct noise monitoring. Conditions 6.5 and 7.6 control noise emissions from the facility.

7. ***Loose litter****: Third party vehicles are delivering uncovered loads of loose rubbish to the site, and littering the roadway and spilling liquid as they drive.*

Response: This is controlled by the requirements of Conditions 7.2 and 7.3. During inspections of the facility the inspector has necer noticed any nuisance caused by loose litter.

8. Potential increase in noise levels.

Response: See Section 4 above.

9. Potential increase of vermin and flies.

Response: This is controlled by the requirements of Condition 7.1 above. During inspections of the facility the inspector has necer noticed any nuisance caused by vermin and flies.

10. ***Potential for foul odours.*** *One submitter states that on numerous fine days there is clear evidence of smells emanating from the premises in breach of the licence.*

Response: Much of the waste processing will be required to be carried out within the waste transfer building. During inspections of the facility the inspector has necer noticed any nuisance caused by odours outside the facility boundary.

11. Potential devaluation of houses.

Response: The local authority are the competent authority in relation to land use planning. Compliance with the conditions of this recommended Proposed Decision will ensure that environmental pollution will not be caused by the activities to be carried out at the facility.

12. ***Facility is in contravention of the Limerick Waste Management Plan 1999****. The waste management plan for the Limerick/Clare/Kerry region has identified three locations in County Limerick for transfer station/ recycling centres. There is no reason why Mr. Binman Ltd. could not relocate to one of these locations. His current location is contrary to the waste management plan and the objective to develop a central materials recovery facility in Limerick City close to the customer base. This is the environmentally sustainable option.*

Response: Section 14.4 of the Waste Management Plan for the Limerick/ Clare and Kerry region states that one of the routes through which packaging waste from households in Limerick will be managed is via recycling centres. It states that recycling centres will be set up in Limerick city, Newcastle West and Kilmallock. The recyling centres to which this section of the plan refers are to be set up by the Local Authority. The plan however also refers to the benefits of public-private partnership and to the role of the Mr. Binman facility, and other private operators in providing waste collection services in Limerick city and county.

13. ***Maximum allowable tonnage is currently being breached*** *by the licensee under the existing licence. This gives locals residents no confidence that an extended annual tonnage would be adhered to in the future.*

Response: The Agency are responsible for taking any relevant enforcement action in relation to any breaches of licence conditions which may occur.

14. ***Travel Distances/ Sustainability****: The facility is ten miles to the south East of Limerick City, which is the main customer base. Bin trucks have a round trip of approximately 100 miles from the collection point to the transfer station and then to the landfill at Gortadroma. This has sustainability implications.*

Response: The presence of the activities carried out at this facility are contributing to the objectives of the Regional Waste Management Plan for Limerick, Clare and Kerry.

15. ***Visual Impacts****: including impacts on the local landscape with the industrial unit breaking the skyline. The facility is visually intrusive both day and night. The night intrusion is due to security lighting.*

Response: Aspects of visual intrusion are controlled by the planning permission for the facility and as such as under the jurisdiction of the planning authority and not the Agency. Nonetheless Condition 7.8 requires that the use of security lighting at night be limited as much as possible to avoid nuisance.

16. ***Health, safety and quality of life****: Many submitters felt that any increase in tonnage at the facility over 24,000 tpa would have a detrimental effect on the health, including the mental health and quality of life of local residents. There are no speed restrictions in the area. The road is extremely narrow and poses an unacceptable risk to local resident and local traffic. The road forms part of a local walking and cycling route with 56 houses in the immediate vicinity. Increased HGV traffic is out of character with the local rural environment. This is an industrial development and should be located in an industrial zoned area close to its main client base. The inevitable increase in dust and vehicle emissions poses a threat to vulnerable people in the community and asthmatics in particular. This again is not in keeping with a clean rural environment. It is unacceptable that these risks should be imposed and increased on the local community. The proposed increase of tonnage would raise the potential for disease transfer by vectors such as rodents, birds and flies.*

Response: See responses to 2, 5, 6, 7, 8, 9, and 10 above.

17. *Mr Sheahan is alleged to have made a statement at his public meeting that while waiting for his new licence to be issued* ***it*** *was legal for him to exceed his present licence of 24,000 tpa.*

Response: Any exceedence of allowable tonnage is a non-compliance with the licence. Notices of non-compliance were issued in relation to the tonnage exceedences.

18. ***The EIS*** *does not adequately address the sustainability of the development and the impact on the local environment under the following headings: travel distances, health and safety, visual amenity, water pollution and planning considerations.*

Response: The E.I.S. was assessed and found to be in accordance with the Regulations.

Submission from the Mid-Western Health Board

The submitter is a senior environmental health officer with the Mid-western Health Board. The submission outlines the site operations, on-site recycling, effluent treatment and monitoring. It also states that the proprietor lives in his family dwelling adjoining the premises and also carries on a livestock farming business. His conclusions are as follows: that 'based on the information provided in the EIS and the on-site visit and interviews there is no evidence of any significant negative impact on public health arising from the present operations of this waste operation. Accordingly there is no objection presently on public health grounds to the granting of this licence application. The following recommendations are made:

(1) that Limerick County Council continue to monitor the water quality of the Ballybricken Group Water Scheme and compare any results obtained from such monitoring with previous monitoring of the scheme prior to the commencement of this operation. The hydrogeology and distances from the abstraction points together with the on-site effluent treatment provisions proposed would make ground water contamination unlikely.

(2) That test hole sumps be provided at the end of percolation trenches located to the front of the site taking the final treated effluent from the treatment unit. The results of these test in addition to the on-going treatment unit monitoring to be communicated to the EPA.

Response: The results of wastewater monitoring are required to be forwarded to the Agency. A hydrogeological assessment of the groundwater flow in the vicinity of the facility is required by Condition 11.7. The licensee is required to install one upgradient and one downgradient groundwater monitoring borehole (Condition 3.17).

Submission from Duchas

The submission from Duchas simply stated that Duchess have no recommendation in relation to this application.

Response: No response required.

Submission from Limerick County Council

A submission from the Environment Section of Limerick County Council stated that the main area of concern is the onsite treatment system and the potential impact of this on groundwater quality. The specific issues are: the adequacy of the plant as installed to deal with the type and quantity of effluent produced on the site and the suitability of the site for disposing of treat effluent to ground. An inspection of the treatment plant and percolation area was carried out by the submitter, a representative of Limerick County Council. 'At the time of my visit the plant appeared to be grossly overloaded and was providing little if any treatment: all chambers were full almost to cover level and there was no visible difference in quality between the influent and effluent from the plant. The fundamental problem with the treatment plant is that, in addition to the design load, all of the surface runoff from the site is

directed through it, causing severe overloading whenever it rains'. In addition the truck wash area discharges to the treatment plant and as truck washing take place mainly on Saturdays it is likely to cause shock loading to the plant and disturb the attached biological growth.

The recommendation made aresummarised as follows:

- *the applicant should divert as much water as possible away from the plant and runoff from yard areas should be diverted to a suitable sized silt trap and oil interceptor.*
- *Discharge from the truck wash should be diverted via a grit trap and oil interceptor. Representative samples of the effluent should be tested to confirm the suitability of this method of disposal.*
- *An assessment of the volume and composition of the floor washings from the transfer building should be carried out.*
- *The effluent from the canteen should be routed through a suitably sized grease trap to prevent excessive amounts of fat reaching the treatment plant.*
- *An Operation and Maintenance Manual for the on site treatment system should be obtained from the manufacturer and training should be provided for staff.*
- *A maintenance contract should be entered into with the supplier of the system.*
- *A drawing of the percolation area showing the as built pipe configuration should also be provided. Also, the adequacy of the existing percolation area should be assessed in accordance with the EPA manual 'Treatment Systems for Single Houses' and proposal for upgrading of the area should be submitted if necessary.*
- *A site map showing the location at which the trial hole and percolation test, referred to above were carried out should be provided.*
- *A hydrogeological investigation should be carried out to establish the zone(s)of contribution to the well(s) supplying the Ballkybricken group scheme. Also the potential impact of any discharges to the ground on the general quality of the groundwater in the area should be assessed.*
- *Groundwater monitoring boreholes should be installed to assess the effects of any discharges on groundwater. One such borehole should be installed downgradient of the existing percolation area. The water in this borehole should be monitored for indicators of either sewage or hydrocarbon pollution.*
- *Proposals for the disposal of sludge from the on site treatment plant should be submitted along with proposals for the disposal of waste for the silt trap and separator.*

Response: In relation to the wastewater treatment plant many of the recommendations above are required by conditions of the draft PD. Given the conditions of the PD in relation to wastewater treatment plant and the percolation area it is not considered necessary to carry out a hydrogeological investigation into the zone of contribution to the group water scheme wells. Condition 11.7 requires a hydrogeologist's report on the groundwater flow in the vicinity of the facility in order to determine the appropriate locations of the groundwater monitoring locations required by Condition 3.17.

Signed _____ Dated:

Maeve McHugh
Inspector
Environmental Management and Planning

APPENDIX 1

Site Plan (Figure 2 of Non-Technical Summary)

APPENDIX 2

Report of noise monitoring carried out on 15th August 2002

SITE INSPECTION REPORT

Site Location:	Luddenmore, Grange, Kilmallock, Co. Limerick	**Date of Visit:**	15th August 2002
		Time:	6.15am to 9.30am
Licensee:	Mr. Binman Ltd	**Scheduled:**	Unannounced
Visit Criteria:	Noise monitoring	**Waste Licence Number:**	61-1
Inspector:	Mr. John Gibbons Inspector, EPA	**Date of Issue of Licence:**	25th November 1999

Summary

Noise monitoring was carried out at the Mr. Binman Ltd waste transfer station at Luddenmore, Grange, Kilmallock, Co. Limerick as part of the review of Waste Licence Register Number 61-1 and to ascertain the effect on the noise environment from the facility at start-up time.

Noise monitoring was conducted over 30 minute periods at three dwelling houses situated near the facility. A traffic count on the public road was also conducted.

At the time of monitoring no noise from the facility was audible at one of the noise sensitive locations NSL3. Noise from the facility was audible at a dwelling house, NSL2, to the south east of the facility where an $L_{Aeq(30)}$ of almost 65 dB(A) was recorded. It was evident during monitoring however that traffic on the public roadway and heavy vehicular traffic associated with a concrete facility in the vicinity were more significant at these locations than noise generated within the facility.

The main source of noise within the facility at the time of monitoring was the operation of an excavator type machine in the yard leveling hardcore and moving topsoil.

The results of the noise monitoring are presented in Appendix 1.

Note 1. As I approached the facility from the Limerick direction, between 6.15am and 6.30 am, I observed the following, three Roadstone trucks and five Mr Binman skip trucks moving in the Limerick direction.

Report prepared by: J Gibbons **Signed:** _____

Date: 19/8/02

APPENDIX 1: NOISE MONITORING RESULTS

Noise Monitoring Report

Report prepared by:	John Gibbons
Facility:	Mr Binman Ltd, Luddenmore, Grange, Kilmallock, Co. Limerick.
Licensee:	Mr Binman Ltd
Licence Register Number:	61-1
Facility Status:	Licensed 25/11/99
Date of Monitoring:	15/08/2002
Monitoring by:	John Gibbons
Main noise sources from facility:	Vehicle movements on site.
Equipment:	Brüel & Kjaer 2260 Sound Level Meter Microphone Type: 4189 B&K Calibrator Type: 4231 B&K
Sampling Range:	29.6 to109.6 dB
Sampling Period:	30 minutes at NSL1, NSL2 & NSL3
Calibration Test:	93.9 dB before and after each measurement

Summary:

Noise levels were recorded at the three noise sensitive locations shown on Plan 4930-A received by the Agency on 28 June 1999 as part of the waste licence application.

The results of the noise monitoring are presented in Tables 1 to 3 of this report.

Meteorological Conditions:

Dry and clear.
Light south westerly winds averaging 1 to 3 metres per second.
Temperature of 15°C.

NOISE MEASUREMENTS

1. NSL1

Time of monitoring: 8.23am to 8.53am

Table 1: Results of Noise Monitoring at NSL1

Location	$L_{Aeq(30)}$ dB	$L_{AF90(30)}$ dB	$L_{AF10(30)}$ dB	L_{AFmin} dB	L_{AFmax} dB
NSL1	52.2	41.6	54.4	35.3	73.5

Comments: NSL1 is situated in the back garden of a private dwelling house to the north east of the facility. There is a direct line of sight from the monitoring location to the facility. At the time of monitoring noise from the facility was audible at the monitoring location. An excavator working on site moving stone and topsoil generated this noise; also noise from a grinder/steel cutter,within the facility, was faintly audible at this location. The noise environment at NSL1 during the monitoring period was dominated by traffic noise on the public roadway. During the monitoring a total of eighteen vehicles passed along the third class road to the east of NSL1 and none of this traffic was associated with the facility. Fourteen of these vehicles were associated with a concrete/gravel facility in the area and the L_{AFmax} of almost 74dB was associated with a lorry on this roadway. One of the occupants of the house informed me after the monitoring that noise is not a problem at this location.

2. NSL2

Time of monitoring: 7.30am to 8.00am

Table 2: Results of Noise Monitoring at NSL2

Location	$L_{Aeq(30)}$ dB	$L_{AF90(30)}$ dB	$L_{AF10(30)}$ dB	L_{AFmin} dB	L_{AFmax} dB
NSL2	64.7	38.2	62.2	33.4	87.6

Comments: NSL2 is located along the driveway leading to a private dwelling house to the south east of the facility. Noise generated by vehicles entering and leaving the facility was clearly and regularly audible at NSL2 during the monitoring period. Noise from vehicle movements and doors opening within the facility also made a minor contribution to the noise environment at NSL2. Although noise from the facility was audible at this location it should be noted that the main contributor to the noise levels recorded at NSL2 was traffic noise generated outside the facility. A total of forty six vehicle movements occurred along the nearby third class road during the monitoring period, fifteen of these were vehicles, which were entering or leaving the facility. A further fourteen were associated with a concrete manufacturing business and the remainder were cars, vans and one lorrry on the roadway. The L_{AFmax} of almost 88dB was associated with a lorry on this roadway.

3. NSL3

Time of monitoring: 6.50am to 7.20am

Table 3: Results of Noise Monitoring at NSL3

Location	$L_{Aeq(30)}$ dB	$L_{AF90(30)}$ dB	$L_{AF10(30)}$ dB	L_{AFmin} dB	L_{AFmax} dB
NSL3	54.7	38.2	54.8	31.7	85.9

Comments: NSL3 is situated along the avenue leading to a private dwelling house to the south west of the facility. There is a line of sight from the monitoring location to the facility but this is partially obscured by some mature trees. The monitoring point is below the elevation of the facility.

At the time of monitoring no noise from the facility was audible at NSL3. Noise generated by farm animals in an adjacent field was significant during the monitoring period. Traffic travelling along the nearby third class road was the main contributor to the noise levels recorded at this location. During the monitoring period a total of forty-four vehicle movements took place along this section of road, thirteen of which were trucks related to the facility and a further fifteen trucks associated with a local concrete manufacturing company. The remainder were cars and motorbikes. The L_{AFmax} of almost 86dB was associated with a Mr Binman lorry on this roadway.

Formulas for Determining Transfer Station Capacity

Stations with Surge Pits

Based on rate at which wastes can be unloaded from collection vehicles:

$$C = P_C \times (L / W) \times (60 \times H_W / T_C) \times F$$

Based on rate at which transfer trailers are loaded:

$$C = (P_t \times N \times 60 \times H_t) / (T_t + B)$$

Direct Dump Stations

$$C = N_n \times P_t \times F \times 60 \times H_W / [(P_t/P_C) \times (W/L_n) \times T_C] + B$$

Hopper Compaction Stations

$$C = (N_n \times P_t \times F \times 60 \times H_W) / (P_t/P_C \times T_C) + B$$

Push Pit Compaction Stations

$$C = (N_p \times P_t \times F \times 60 \times H_W) / [(P_t/P_C) \times (W/L_p) \times T_C] + B_C + B$$

Where:

- C Station capacity (tons/day)
- P_C Collection vehicle payloads (tons)
- L Total length of dumping space (feet)
- W Width of each dumping space (feet)
- H_W Hours per day that waste is delivered
- T_C Time to unload each collection vehicle (minutes)
- F Peaking factor (ratio of number of collection vehicles received during an average 30-minute period to the number received during a peak 30-minute period)
- P_t Transfer trailer payload (tons)
- N Number of transfer trailers loading simultaneously
- H_t Hours per day used to load trailers (empty trailers must be available)
- B Time to remove and replace each loaded trailer (minutes)
- T_t Time to load each transfer trailer (minutes)
- N_n Number of hoppers
- L_n Length of each hopper
- L_p Length of each push pit (feet)
- N_p Number of push pits
- B_C Total cycle time for clearing each push pit and compacting waste into trailer

Source: Decision-Makers Guide to Solid Waste Management, Secon Edition (EPA530-R-95-023), p. 4-23.