

# **INSPECTORS REPORT**

**WASTE LICENCE REGISTER NUMBER: 151-1**

**APPLICANT:** Murphy Concrete Manufacturing Ltd.

**FACILITY:** Murphy Concrete Manufacturing Ltd., Sarsfieldstown, Gormanstown, Co. Meath.

**INSPECTOR:** Caoimhín Nolan

**INSPECTOR'S RECOMMENDATION:** That a waste licence be granted subject to a number of conditions.

## **(1) Introduction**

Murphy Concrete Manufacturing Ltd. (MCM) has applied for a waste licence to operate an inert landfill approximately 1.5 km to the northwest of Gormanstown village in Co. Meath, close to the junction of the M1 motorway and the N1 National Primary Route. Agriculture is the dominant landuse in the area. The site is bounded by a quarry to the south, with a private dwelling located about 60m from the southern boundary. The N1 National Primary Route passes close to the western boundary. Also at the western boundary are situated a small number of private dwellings approximately 30m from the facility. Mosney Holiday Camp and Gormanstown Military Camp are located about 1km to the north-east and south-east respectively.

The facility is located in a sand and gravel quarry and is approximately 33 ha in size. The applicant intends to backfill the quarry with inert construction and demolition waste and restore the area to agricultural pasture land. Although mineral extraction activities at the facility have largely ceased, MCM currently operates a gravel/aggregate washing plant within the boundary of the facility. In addition to this, MCM has lease agreements with three other parties for the use of the site. Readymix Ltd. operates a concrete manufacturing plant (i.e. adjacent to the washing plant), Bord Gais use the south-west portion for the temporary storage of gas pipework, and Mosney Holiday Camp have water storage tanks (currently unused) on the highest part of the site. It is not possible to exclude the areas where these non-waste activities are carried out from the facility boundary due to logistics and also because waste related activities may be carried out here under the recommended PD (e.g. the restoration of previously deposited wastes).

The applicant has indicated (in an Article 14 response) that an estimated 1 million tonnes of waste has been deposited at the facility over the past 25 years. Following a number of site inspections carried out by Agency inspectors and the initiation of legal proceedings by the Agency against MCM and its company directors, waste activities ceased at the facility on 10<sup>th</sup> May 2002. Agency inspectors have determined that the facility accepted a wide variety of waste types including soil, mixed builders rubble (e.g. concrete, stone, tarmacadam, plasterboard, plastic, wood, polystyrene foam) paper, furniture, metal, carpet, clothes, domestic waste and green waste. Some of this waste arrived in tumbled form and had originated from waste transfer stations based in Dublin. According to Dublin City Council, 3,034 loads of waste boulder clay (equivalent to about 60,000 tonnes), originating from the Dublin Port Tunnel works, were disposed of at the facility over a five-month period between 2001 and 2002. Considerable quantities of domestic waste have been deposited in one distinct portion of the facility, occupying an area of about 2.2 ha, and the depth of such waste

is known to be at least 2.5m (i.e. from borehole logs). The applicant has indicated that the disposal of domestic waste in this particular area was undertaken by Meath County Council, prior to MCM purchasing the property. Recent information received by the Agency (i.e. in a submission on the application) also suggests that domestic waste was also deposited in the west of the facility. The most recent site visit undertaken by Agency inspectors showed that previously deposited wastes were generally covered with clay, subsoils or similar.

The applicant has applied for the following classes of waste disposal and recovery activity: Third Schedule Class 1 and 13; Fourth Schedule Class 3, 4 and 13. The recommended Proposed Decision (PD) permits the waste disposal and recovery activities applied for by the applicant for inert waste only, subject to the conditions therein, so as to effect the restoration of the existing quarry. The applicant had applied to accept a maximum annual tonnage of 750,000 tpa, however they indicated that the facility was likely to accept in the order of 300,000 tpa and the recommended PD allows for the facility to accept this annual tonnage (i.e. 300,000 tpa). **A plan showing the location and layout of the facility to which the application relates is provided in Appendix 1.**

**Table 1: Summary of facility details**

<b>Quantity of waste (tpa) to be accepted</b>	300,000 tpa
<b>Prescribed date for application</b>	1 <sup>st</sup> May 1997
<b>Application received</b>	16 <sup>th</sup> February 2001
<b>Environmental Impact Statement Required</b>	Yes. The EIS has been assessed and it complies with the requirements of Article 13 of the Regulations.
<b>Number of Submissions Received</b>	7
<b>Most recent Site Visit</b>	20 <sup>th</sup> May 2002

## **(2) Facility Development**

Based on correspondence received from Meath County Council on 30/8/01, no planning permission exists for the operation of the site as a waste disposal facility. The two planning permissions relating to this facility (ref. 96/1000 and 99/1152) allow for the restoration and reinstatement of certain distinct portions – i.e. the Bord Gais pipe storage area, the workshop/store and the area where domestic waste was previously deposited in the east of the site. A High Court Order agreement (Record no. 39 MCA 1995) between Meath County Council and the applicant required that the disposal of domestic waste cease at the facility, however it does allow the facility to accept “dry fill and builders rubble”.

Despite having previously accepted large quantities of waste, the facility presently has very little waste management infrastructure in place. A small site office (port-a-cabin style), a vehicle maintenance shed (and associated hardstanding) and a toilet (with septic tank) are available on-site. Three unbunded diesel tanks (with a combined capacity of 35,000 litres) are being used at the facility. The facility does not have either a weighbridge or a wheelwash, and limited site security is available at present.

The recommended PD allows for the landfilling of inert waste only, and this shall be deposited into cells constructed from low permeability clay in accordance with the lining requirements of the Landfill Directive (i.e. mineral layer with a permeability of  $K \leq 1 \times 10^{-7}$  m/s).

The applicant has indicated that they intend to carry out recovery activities on some of the waste accepted. This would involve the segregation of waste concrete and concrete blocks from incoming loads, the crushing of this material on-site and the resale of this recovered aggregate. The applicant anticipated that approximately 12,000 tonnes of recovered aggregate would be generated per annum. The recommended PD allows this recovery activity to be carried out at a construction and demolition waste recovery area, which will be established in an area to be agreed with the Agency.

Condition 3 of the recommended PD requires the applicant to put in place various infrastructural items either prior to the commencement of waste activities, or within a specified timeframe. These include security, waste inspection and quarantine areas, a weighbridge, a wheelwash and monitoring infrastructure. Leachate and landfill gas management infrastructure is also required where necessary, following the completion of a comprehensive risk assessment (see Section 5 of this report). Condition 3 requires that all tank and drum storage areas be bunded, and surfacewater management infrastructure be put in place. Following the completion of a fully costed environmental liabilities risk assessment, the recommended PD requires the applicant to put in place financial provision.

The recommended PD allows the facility to be restored up to a final height of 22m OD, as proposed by the applicant, with the exception of the centre of the facility (i.e. where the water tanks leased to Mosney Holiday Camp are located and which is currently at a height of 28m OD).

### **(3) Waste Types and Quantities**

Only inert waste shall be accepted for disposal at the facility. Condition 5.3 of the recommended PD requires that waste acceptance procedures be agreed with the Agency in advance, and these procedures must have regard to the recently adopted Council Decision 2002/33/EC, establishing criteria and procedures for the acceptance of waste at landfills.

In April 2002, the applicant estimated that the facility had 925,354 m<sup>3</sup> of remaining void space, equivalent to about 1,388,031 tonnes of waste. The recommended PD allows for the facility to accept a maximum quantity of 300,000 tonnes of inert waste per annum. At this expected level of waste intake, this would give the facility a lifetime of approximately 5 years.

The applicant proposed that waste acceptance would be carried out between 7.30am and 7.30pm Monday to Friday, and 7.30am to 5.00pm on Saturdays, with the facility operated from 6.00am to 8.00pm Monday to Friday, and 6.00am to 5.00pm on Saturdays. As well as the waste activities, sand and gravel activities would also be carried out within these operating hours. Although no submissions received on the licence application specifically objected to these operating hours, I do not consider that the operation of the facility between 6.00am and 7.00am would be necessary. Condition 1.5 of the recommended PD therefore allows the facility to operate from 7.00am onwards.

### **(4) Emissions to Air**

**Landfill Gas:** Landfill gas was detected at two boreholes located within the facility boundary. Elevated levels of Methane (31.1% v/v) and Carbon Dioxide (12.5% v/v) were recorded in the east of the site where a large quantity of domestic waste has been deposited. Condition 3.18 of the recommended PD requires that additional landfill gas monitoring locations be provided which will allow for the detection of any landfill gas migration off-site. Condition 5.13 also requires that a risk assessment be carried out at the facility, and this will include an assessment of the need for landfill gas control measures.

**Dust:** The recommended PD sets an emission limit value of 350 mg/m<sup>2</sup>/day for dust deposition at nearby sensitive receptors. It also provides for the monitoring of dust deposition at these receptors.

**Odour:** As the facility will be accepting only inert waste, significant odour emissions are not anticipated.

**Noise:** Noise levels recorded at the site entrance and at the western boundary (i.e. over a 1 hour period while waste was being accepted at the facility) were 57.4 dB L<sub>Aeq</sub> and 69.0 dB L<sub>Aeq</sub> respectively. Much of the noise recorded at the noise sensitive receptor (i.e. at the western boundary) could be attributed to traffic travelling along the N1. Noise levels generated at the facility may increase periodically in the future (e.g. due to crushing activities), however the recommended PD requires the applicant to comply with noise emission limits and to carry out noise monitoring on a bi-annual basis. Schedule D.4 also requires that at least one such monitoring event be undertaken whilst concrete/stone crushing is occurring on-site.

#### **(5) Emissions to Groundwater**

The facility is underlain by Ordovician-Silurian bedrock of the Clatterstown Formation and consists of blue-grey thinly bedded siltstone with minor sandstones. The bedrock here has been categorised as a *Poor Aquifer – generally unproductive except in local zones (Pl)*. The overburden is composed primarily of glacially deposited sands and gravels known as the Mosney/Balloy Gravels, and the depth of these deposits in the vicinity of the facility is in the order of 25m. The aerial extent of the Mosney/Balloy Gravels is less than 10km<sup>2</sup> and it is a known sand and gravel aquifer which is classified as *Locally Important (Lg)*. The aquifer extends in an east-west direction with groundwater flow in an easterly direction, and it discharges to a number of springs along the coastline about 1km to the east of the facility. The Meath Groundwater Protection Scheme assigns a vulnerability rating of *High (H)* on the aquifer in this area. This would place the facility in zone **R3<sup>1</sup>** of the Groundwater Protection Scheme Response Matrix for Landfills. The recommended PD only allows the facility to dispose of inert waste into lined cells constructed in accordance with the Landfill Directive (i.e. for inert waste landfills) and this will provide adequate protection for groundwater.

Leachate sampling from a borehole inserted through mainly domestic waste (i.e. in the east of the site) was not possible as the well was dry, however samples were taken from three other wells inserted through what was described as “inert waste”. All three of these wells exhibited elevated levels of a wide range of parameters, including Ammoniacal Nitrogen (up to 114 mg/l), Phenols (up to 0.02 mg/l), Diesel Range Organics (up to 4.2 mg/l), Mineral Oil (up to 1.7 mg/l) and Conductivity (up to 4520 µs/cm). Significant quantities of List I/II substances were also evident at these wells.

The results of analysis carried out on wells (including private wells) in the vicinity of the facility did not show that the facility was having a significant impact on the quality of groundwater downgradient of the facility. It should be noted however, that only one monitoring location is clearly downgradient of the facility, and the recommended PD requires additional monitoring infrastructure to be put in place (both on the overburden and bedrock aquifers). Schedule D of the recommended PD requires groundwater monitoring to be carried out on a quarterly basis for various parameters. Condition 5.13 also requires a comprehensive **risk assessment** to be undertaken within six months of the date of grant of the licence to establish the environmental impact arising from previously deposited wastes.

Wastewater arising from the toilets on-site is currently treated in two septic tanks/percolation areas prior to discharging to the base of the quarry (i.e. one used by MCM and the other by Readymix). Condition 3.10 of the recommended PD requires that these systems be operated in accordance with the Agency's *Wastewater Treatment Manual, Treatment Systems for Single Houses*.

#### **(6) Emissions to Surface Water**

The facility is located within the catchment area of the River Mosney, which is a river with no known special designations for fish stocks. A small stream, which is a tributary of the River Mosney, flows eastwards along part of the northern boundary of the facility. This is an intermittent stream and it only flows after periods of heavy rainfall. As a result of quarrying activities over the last 25 years, the facility is located below the level of the surrounding landscape, and most surface water generated (i.e. from rainfall) within the facility drains to the base of the quarried area. The topography and nature of the overburden at the facility will also tend to facilitate the downward movement of water, rather than lateral movement to nearby streams/streams, nonetheless, the recommended PD requires monitoring to be carried out on the stream to the north of the facility, both at upstream and downstream locations.

A number of large water bodies are evident within the facility boundary, and these appear to be largely comprised of surface water which has accumulated on top of deposited clay material. Any run-off from the vehicle servicing shed on-site also currently drains to this area. Condition 3.15 of the recommended PD requires that all run-off from the vehicle servicing shed shall pass through a silt trap and an oil interceptor prior to discharge into a sedimentation pond. The development of lined cells will also necessitate the removal of ponded water, and Condition 3.15 requires that this water be directed to a sedimentation pond.

#### **(7) Other Significant Environmental Impacts**

Vibration monitoring was carried out by the applicant and the recorded levels were below the peak particle velocity recommended in the case of quarrying and mining operations in the Agency's IPC Licensing Guidance Note for Noise in Relation to Scheduled Activities (EPA, 1995).

The facility contains a number of habitats that are used for feeding and/or breeding by certain bird and amphibian species (e.g. Sand Martins and the Smooth Newt). The applicant has proposed to retain a representative portion of these habitats (i.e. located in the northwest part of the facility) and the recommended PD allows for this. It is noted that the facility does not include any areas specifically designated for nature conservation and therefore the requirements of the Habitats Directive and the

European Communities (Natural Habitats) Regulations, 1997 do not apply to this development.

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

The Waste Management Plan for the North East Region (1999-2004) was considered in the evaluation of this licence application, however it does not refer to this facility. Section 10.6 of the plan envisages that recycling of construction and demolition waste would be undertaken at four sites (i.e. with one located in each County) which would be serviced periodically by mobile recycling plant. The plan does not identify any facilities within the region for the disposal of residual C+D or inert waste. No relevant air quality or water quality management plans exist.

#### **(9) Recommendation**

It is recommended that a licence be granted for Classes 1 and 13 of the Third Schedule and Classes 3, 4 and 13 of the Fourth Schedule as applied for in the application. In coming to this recommendation, I consider that these activities if licensed, would (subject to the conditions of the recommended Proposed Decision) comply with the requirements of Section 40(4) of the Waste Management Act 1996. In reaching a decision on the waste licence application for this facility, I have had regard to the following:

- the facility has accepted non-inert waste in the past but the recommended PD only allows inert waste to be accepted, and stringent waste acceptance procedures will be adopted;
- a comprehensive risk assessment will be carried out to examine the environmental impact of previously deposited wastes and this will include an assessment of the need for restoration measures, landfill gas/leachate control measures; and
- the recommended PD allows for both recovery and disposal activities to be carried out, thereby allowing the facility to contribute towards achieving the national targets for the recovery of Construction and Demolition waste.

#### **(10) Submissions**

A total of seven valid submissions were received in relation to this waste licence application and I have had regard to all of the submissions in making this recommendation to the Board.

1. & 3. Catherine Buchanan/Rita Gorman, Countryside Protection Unit, Dúchas (Submissions received 27<sup>th</sup> March and 11<sup>th</sup> July, 2001)

*Dúchas have no objections to the granting of this licence.*

#### **Response:**

Dúchas's comments are noted.

2. Alan McGurdy, Chief Executive Officer, Eastern Regional Fisheries Board, Blackrock, Co. Dublin (Submission received 22<sup>nd</sup> June, 2001)

*There is a lack of information with regard to the leachate generated. Substantial amounts of ammoniacal nitrogen, heavy metals and other substances produced may*

*cause serious pollution to local ground and surface waters. If construction and demolition material contains metals, cardboard and other degradable products, it is clear that the leachate may pose a danger to local waters.*

**Response:**

Although monitoring of surfacewater and groundwater in the area did not show any significant impact, Condition 5.13 of the recommended PD requires a comprehensive risk assessment to be undertaken within six months of the date of grant of the licence to establish the environmental impact arising from previously deposited wastes. Appropriate measures to prevent the pollution of local surfacewater and groundwater will be implemented following the completion of this risk assessment. The recommended PD requires that only inert waste shall be accepted, and that such waste shall only be disposed into cells lined in accordance with the Landfill Directive.

4. Brendan Fulham, Administrative Officer, Environment Section, Meath County Council, County Hall, Navan, Co. Meath (Submission received 14<sup>th</sup> March, 2001)

*Meath County Council has received complaints of unauthorised dumping of waste at the facility.*

**Response:**

Until such time as the Agency issues a final decision on the waste licence application, the responsibility for controlling the operations of this facility and dealing with related complaints rests with the local authority, which in this case is Meath County Council. Nonetheless, the Agency is aware that unauthorised waste disposal activities have taken place at this facility and the Agency is currently pursuing legal proceedings against the operators for operating the facility in the absence of a waste licence. The Agency wrote to Meath County Council on 8<sup>th</sup> February 2002 informing them that it had initiated legal proceedings against MCM.

5. & 6. Carmel Lynch/Elizabeth Byrne, Environmental Health Officer, North Eastern Health Board, Meath Community Services, Co. Clinic, Navan, Co. Meath (Submissions received 24<sup>th</sup> June and 25<sup>th</sup> November, 2002)

*Ms. Lynch has no objection to the proposed licence application subject to the following:*

- *Every load of waste should be examined and visually inspected upon arrival at the site. Only inert construction and demolition waste shall be disposed of. Any non-confirming loads shall be detained in the quarantine area and returned.*
- *Where water is used for dust suppression, an approved wetting agent at correct concentrations should be used.*
- *If considered necessary by the Agency, trucks used for the transport of C+D waste should be covered to prevent spillage or blowing of dust or any other deleterious material.*
- *Activities on-site should not give rise to noise levels at noise sensitive locations which exceed the following sound pressure limits:  
55 dB LAeq, 1 hour 0800 to 2000 Monday to Friday  
0800 to 1400 Saturdays  
45 dB LAeq, 15 min, at all other times and Bank Holidays*
- *The area of the site which was originally used for disposal of biodegradable waste has not been assessed for landfill gas emissions.*

- *Part 3.2.1.2.10 of the EIS states that leachate interceptor drains will be installed along the eastern perimeter of the site if natural attenuation does not remove all contaminants. Monitoring of leachate should be carried out on a regular basis.*
- *A contingency plan shall be developed and implemented in the event of contamination of private water supplies in the area.*
- *There should be no clearly audible tonal component or impulsive component in the noise emission from the activity at the noise sensitive location.*
- *Fuel shall be stored in properly banded areas only.*
- *The development should be operated in such a manner that atmospheric pollution from dust, grit or offensive gases shall be kept at such levels so as not to cause a nuisance or be injurious to public health.*
- *All environmental monitoring shall be carried out in line with the EIS and to the satisfaction of the EPA.*

**Response:**

Condition 1.4 of the recommended PD specifies that only inert waste can be accepted at the facility. Condition 5.3 requires stringent waste acceptance procedures to be adopted and any non-conforming loads shall be stored in the waste quarantine area. Condition 7.4 of the recommended PD requires that in dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance. The recommended PD also requires that potential nuisances due to the operation of the facility are controlled and that only inert waste will be accepted at the facility, so uncovered trucks should not give rise to litter. Condition 8 of the recommended PD requires noise monitoring to be carried out and Schedule C specifies the following noise emission limits for nearby sensitive receptors: 55 dB(A) LAeq (15 min, Daytime) and 45 dB(A) LAeq (15 min, Night-time).

The applicant carried out monitoring for the presence of landfill gas in the area where domestic waste was previously deposited and Methane and Carbon Dioxide were recorded at these locations. The risk assessment required to be carried out under Condition 5.13 of the recommended PD will include an assessment of the need for landfill gas control measures at the facility. It is noted that the EIS does not contain a section 3.2.1.2.10, and that the EIS does not refer to the possibility of putting in an interceptor drain. The recommended PD requires that regular monitoring be carried out on both leachate and groundwater at the facility. Condition 9.4.3 requires that in the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply, this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected. Condition 3.11 of the recommended PD requires that all tanks and drums be adequately banded. Condition 8 requires dust monitoring to be carried out at nearby sensitive receptors and Schedule C specifies a dust deposition emission limit of 350 mg/m<sup>2</sup>/day. Condition 8 and Schedule D of the recommended PD require environmental monitoring to be carried out on a regular basis.

7. Tracey and Christopher Nugent, Brambley Cottage, Sarsfieldstown, Gormanstown, Co. Meath (Submission received 5<sup>th</sup> March, 2003)

*Her family live 80 feet from the western boundary of the facility and have lived there since 1984. During this time, they have witnessed illegal waste disposal activities taking place there. In 1994-1995, Noel Murphy was being allowed to dump domestic waste, toxic drums and dead animals into a 3-acre portion of the facility. Local*



*people are concerned about the contamination of drinking water wells and the possible importation of contaminated soils. They also express concern about Mr. Murphy receiving a waste licence without proper direction in the filling of the remaining land and urgently recommend that proper monitoring be taken on the present illegal dump. MCM have continued to disobey rules and regulations for the safety of the public and in the running of their business on this site.*

**Response:**

The Agency is aware that unauthorised waste disposal activities have taken place at this facility and the Agency is currently pursuing legal proceedings against MCM for operating the facility in the absence of a waste licence. Condition 5.13 of the recommended PD requires that a comprehensive risk assessment be done to establish the environmental impact arising from previously deposited wastes. The recommended PD also requires that only inert waste shall be accepted, and that such waste shall only be disposed into cells lined in accordance with the Landfill Directive. Condition 8.6 requires groundwater monitoring to be carried out on all private wells within 250m of the facility. Condition 5.1 requires the licensee to submit a development and filling sequence plan to the Agency for agreement. The recommended PD sets out the conditions under which the operations of the facility will be allowed, and the Agency will enforce those conditions.

Signed \_\_\_\_\_  
Caoimhín Nolan, Inspector,  
Environmental Management & Planning.

Dated:

## **APPENDIX 1**

### **LOCATION MAP & SITE PLAN (Figure No. 1.2 of the Application)**