Midland Waste Disposal Company Ltd.,

Waste Licensing
Waste Recovery/Disposal Activities
(Other than Landfill Sites)

Section E

Emissions

Midland Waste Disposal Company Ltd.,

Waste Licensing
Waste Recovery/Disposal Activities
(Other than Landfill Sites)

Section E1

Emissions to Atmosphere

E.1 EMISSION TO ATMOSPHERE

a) *Composting Area. (A1)*
Outlet to composting unit and final processing of composted material; Dust, particulates & odours

b) *Recycling Plant Building. (A2)*
Waste acceptance handling and processing; Dust/particulates/ litter debris & odours

c) *Roadways (A3)*
Movement of vehicles; Dust

d) *Skip Storage Areas (A4)*
Area of temporary storage of skips (empty & full); Dust/particulates/ litter debris & odours

e) *Glass Segregation Area (A5)*
Area for storage of segregated glass; Dust & particulates

To ensure these emission are minimised the following measures have been put in place:

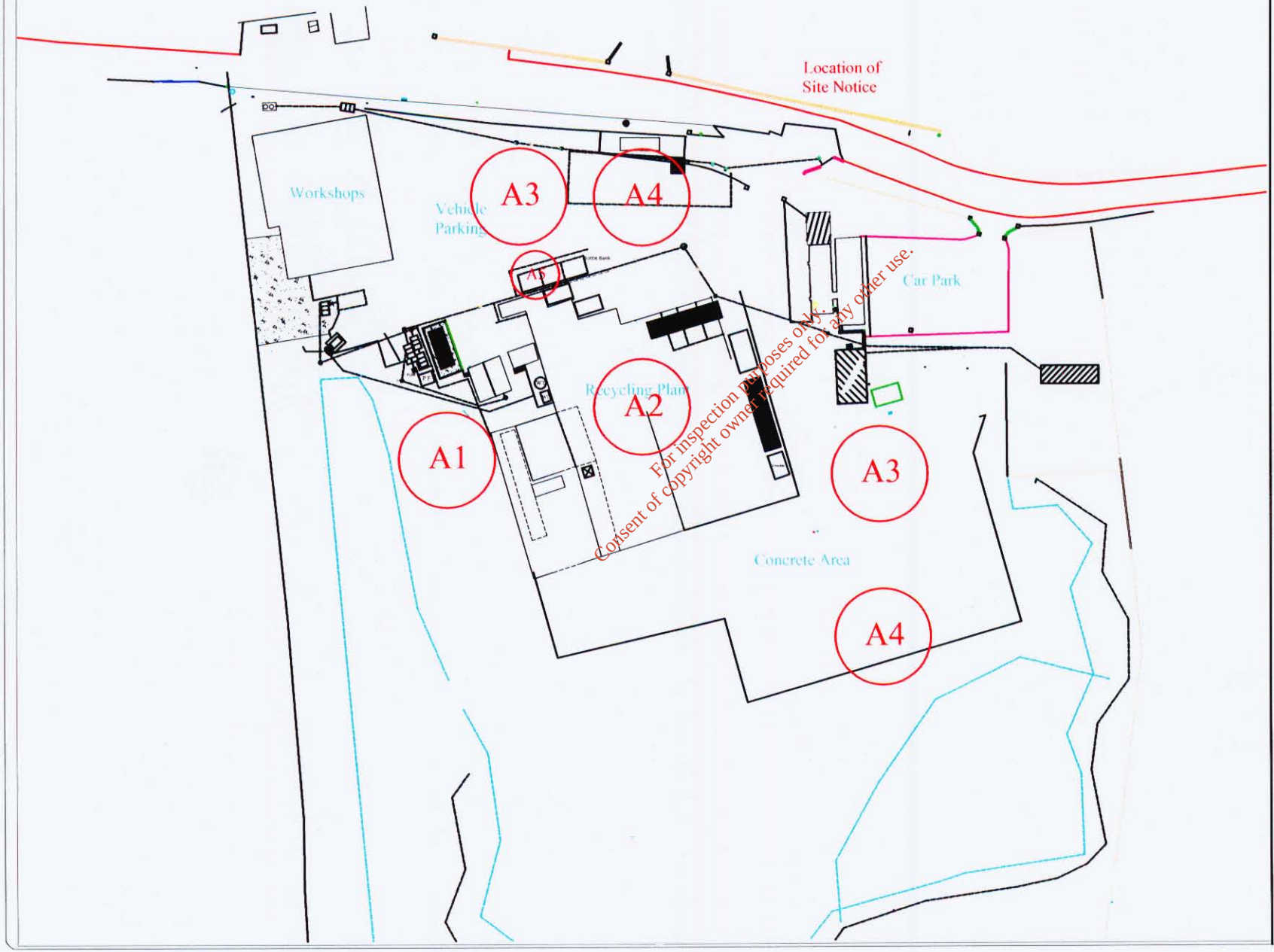
- Speed restrictions are in place from traffic movement on-site.

- All waste handling and processing is conducted within the Recycling Plant Building in order to prevent dust emanating off-site as a result of waste handling activities and to prevent an increase of noise levels in the vicinity of the facility.

- Nuisance inspections are carried out for litter, noise, vermin, dust, odours and flies. These inspection were carried out by Mr. Francis Flynn, general manager. Any observations were recorded and corrective action procedures carried out where necessary.

- The waste is processed through the system as efficiently as possible in order to prevent odours emanating from the process. The waste fines are removed from the vicinity of the recycling plant building as quickly as possible in order to prevent flies and odours.

- The Composting (VCU) Unit and the trommelling system are inspected on a daily basis to ensure there are no nuisances caused as a result of dust, noise, odours, leachate, debris and/or flies.



Rev.	DESCRIPTION	DATE

BORD NA MÓNA
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Project: Waste Licence 131-1

Client: Midland Waste Disposal Ltd

Drawing Title: Location of Air Emissions

Date	Scale (A3)	Drawn by	Checked by	Approved by
20/03/05	nts	sc	FF	FF

Status: PLANNING ☐ FOR APPROVAL ☐ TENDER ☐ FOR CONSTRUCTION ☐ AS BUILT ☐

Dwg. No.

Midland Waste Disposal Company Ltd.,

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Section E4

Emissions to Groundwater

E.4 EMISSION TO GROUNDWATER

The monitoring groundwater emissions from the facility is carried out on a quarterly basis in complance with Schedule (E) the existing Waste Licence (Reg. No. 131-1). A visual inspection is undertaken on the clean roof water collected at the north-east corner of the Recycling Plant Building prior to discharge into the ground. The sample is collected into a 250 ml glass container for visual inspection.

All waters are directed through a siltration trap and oil interceptor prior to discharge to groundwater. It is proposed to install a second discharge point to groundwater along the eastern boundary of the site to collect waters from the southern sections of the site. This waters will be directed through a siltration tank and oil interceptor.

The estimated daily volumes of surface water run-off from the site are presented in below The 30 Year Greatest Daily Rainfall Total and the average daily rainfall figures as recorded at Mullingar was used to calculate the maximum daily run-off volumes:

Area (m^2)	Rainfall (m)	Maximum Daily Run-off (m^3)
9702	Average Daily Rainfall 0.0025	24.25
9702	30 Year Max. Daily Total 0.0698	677

Since March 2001, 14 no. visual inspections have been carried out at the facility and details of such inspection were reported to the agency on a quarterly basis on the "*Quarterly Monitoring o f Emissions to Groundwater Inspection Form (EWF1.4)*" (see attachment C2: EMS).

All inspections reported the clean roof water to be clear and free of suspended solids. There was no odour or evidence of iridescent reported.

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Section E5

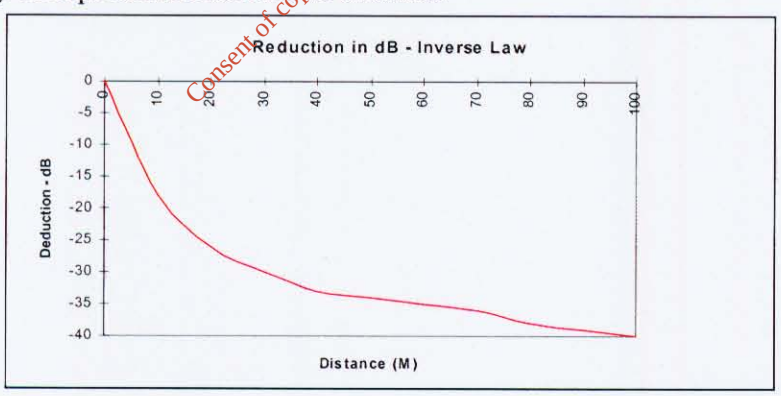
Noise Emissions

E.5 NOISE EMISSION

Noise emissions from the facility are generated through the operation of equipment on-site and the movement of vehicles within the facility. Table 1.1 below shows the predicted noise impact on the nearest sensitive receptor from the sound pressure reference levels for the equipment used on-site during normal operations of the facility. These predictions account for the proposed normal hours of operation from 06:00 to 20:00.

To predict the noise level of identified on-site noise sources at the noise sensitive locations the sound pressure reference level of each source was obtained at a reference distance within its near field, usually 1m. This reference level is in most cases provided by the manufacturer of specific items of equipment and in other cases was obtained by actual noise measurements for operating equipment in similar composting scenarios. Predictions shall be carried out by employing the inverse square law, which is a "rule-of-thumb" used to calculate the expected reduction in noise levels as one moves away from the source. Generally, as one doubles the distance from the source, a reduction of 6 dB is expected. Within a confined space, however, this rule does not apply due to reflection where a diffuse field is set up at a level higher than that expected from this law. The graph below indicates the expected reduction in sound level as one moves away from the source. The curve flattens out as the distance increases due to the logarithmic function that determines the noise level at a particular distance.

Graphically this may be represented as follows overleaf:



The Inverse Square law is defined as.

$$Lp_2 = Lp1 - 20 \text{ Log } (R2/R1)$$

Lp_2 is the calculated sound pressure level at R2 meters towards the receiver location

Lp_1 is the measured reference sound pressure level at R1 meters from the source

Table 1.1: Sound Pressure Reference levels for the proposed equipment to be employed at the facility and their predicted noise impact

Proposed Equipment	SPL Ref. dB A	Distance (m) of Noise Source(s) to Noise Sensitive Location(s) (Approx.) note 1	Predicted Noise Levels (dB A) At the Noise Sensitive Locations
		NSL1	NSL1
Trommel	76@15m	250	52
Bobcat operator Forklift	78.6@1m	220	32
Volvos & Hitachi & grab	90@1m	250	42
Shredder	75@20m	300	51
Accumulative Noise when working in unison	-		55
Accumulative Noise when working in unison taking into account the existing quarry face which acts as an attenuation barrier (Minimum 5 dB(A))	-		50

Abatement Systems:

The main noise sources listed above are not likely to be operating continuously during the day and therefore, any impact will not be of a continuous nature. Also, it is proposed that all operations concerning sorting / recycling of material will take place indoors and thus further reducing the potential impact from noise sources. There are several mitigation measures that can be put in place to further reduce noise levels impacting on the receiving environment.

These include:

- Proper maintenance of vehicles and equipment, including the conveyors, screening equipment, shovel loaders and compacting machinery.
- Monitoring of site noise levels to ensure compliance and implementation of cost effective control measures.
- The control of on-site activities through the implementation of good management practices will combine to ensure that the noise generated at the site will not have any undesirable effects on the existing neighbouring environment.
- Selection of plant with low inherent potential for generation of noise and / or vibration

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Section E6

Environmental Nuisances

E.6 ENVIRONMENTAL NUISANCE

In compliance with condition 6.2 of the existing waste licence (re. No. 131-1), weekly environmental nuisance inspections are carried out at the facility. These inspections are carried out and recorded on the "*Weekly Environmental Nuisance Inspection Form EWF 1.3*" (see attachment C2: EMS). Inspections are carried out for any nuisances caused by the presence of vermin, birds, flies, mud, litter, dust and odours.

a) Bird Control

Waste handling operations at the facility is carried out in such a manner to ensure that waste is never exposed for long periods of time and as such there is no readily available food source presented to the localised bird population. All waste tipping, sorting and segregation is carried out within the recycling plant building and all wastes (other than C&D and glass) are held within sealed covered containers. Any temporary skips stored outside of the recycling plant building are covered. It is not considered that birds cause a nuisance to the immediate surrounds of the facility as a result of on-site activities.

b) Dust Control

Waste handling operations at the facility is carried out in such a manner to ensure that waste is never exposed for long periods of time and as such the potential for dust emissions from the facility is considered minimal. All waste tipping, sorting and segregation is carried out within the recycling plant building and all wastes (other than C&D and glass) are held within sealed covered containers. Any temporary skips stored outside of the recycling plant building are covered.

Dust monitoring is carried out three times a year (twice during the summer months from May – September). Both dust depositional and dust directional monitoring is carried out.

c) Fire Control

Fire protection at the facility is provided by a number of fire extinguishers (powder and foam) distributed throughout the facility (as detailed below) which are maintained by *Apex Fire* on an annual basis.

Recycling Plant Building
2 no. 9 kg and 1 no. 6kg dry powder extinguishers
3 no. foam extinguishers

Workshops

5 no. 2kg, 1 no. 5kg CO_2 extinguishers
1 no. 12 kg and 1 no. 2 kg dry powder extinguishers
1 no. 2 litre foam extinguishers

Diesel Room

1 no. 9 kg dry powder extinguisher

Canteen

1 no. 6 litre foam extinguisher
map detailing locations of all fire extinguishers at the facility
telephone numbers of local emergency services

Office

1 no. 6 litre foam extinguisher
1 no. 2 kg CO_2 extinguishers
Control panel for fire detection system at the facility
map detailing locations of all fire extinguishers at the facility
telephone numbers of local emergency services

As part of the environmental management system, fire prevention and emergency response training is maintained at the facility by the General Manager Mr. Francis Flynn. The fire extinguisher requirement for individual areas and fire prevention and emergency response training are reviewed on an annual basis as part of the on-going environment improvements to the facility. Records of training undertaken by employees are kept on file within the General Managers office.

d) Litter Control

The control measures in place at the facility to prevent the escape of litter from the facility include the following:

Waste handling operations at the facility is carried out in such a manner to ensure that waste is never exposed for long periods of time and as such the potential for litter escape is considered minimal. All waste tipping, sorting and segregation is carried out within the recycling plant building and all wastes (other than C&D and glass) are held within sealed covered containers. Any temporary skips stored outside of the recycling plant building are covered.

A net curtain has been placed along the entrance into the Recycling Plant Building to prevent any debris from the building from escaping.

A daily litter patrol of the site perimeter and access road is undertaken. Where the escape of litter has occurred it is immediately collected and returned to the site

The site has a natural barrier surrounding the southern, eastern and western boundaries which helps to minimise any litter from escaping from the site. The northern boundary of the site comprises of a palisade fencing and evergreen hedge which also prevents any litter from escaping.

e) Traffic Control

There are three entrances into the facility along the northern boundary, namely the office entrance, general site entrance and weigh-bridge entrance. The access road way ca. 500m to the facility is via a cul-de-sac from the R162 Navan-Kingscourt road. The road way is of good design and state of repair.

Traffic movement at the site is on hardstanding areas with waste vehicles, accessing the site through the weigh bridge, driving to the back of the recycling plant building (emptying its load) and exiting the site via the general site entrance. Currently an average of 50 vehicles enter and leaving the facility daily. It is proposed that when the facility operates at the maximum proposed tonnages of 95,000 tonnes per annum, the traffic movements will increase to ca. 75 vehicles entering and leaving the site. A speed limit of 8 km is upheld at the facility for all traffic movement. Traffic management on-site is satisfactory and the hardstanding (existing & proposed) is of sufficient size to accommodate present and future volumes of traffic.

There is no public access to the operational area of the site. Parking for the general public is provided at the office entrance.

f) Vermin Control

The control measures in place at the facility to prevent any nuisances being caused as a result of vermin include the following:

Waste handling operations at the facility is carried out in such a manner to ensure that waste is never exposed for long periods of time and as such the potential for litter escape is considered minimal. All waste tipping, sorting and segregation is carried out within the recycling plant

building and all wastes (other than C&D and glass) are held within sealed covered containers. Any temporary skips stored outside of the recycling plant building are covered.

Independent vermin control company carries out the setting of traps (35 rat traps) around the facility. These traps are inspected weekly by site personnel, as part of the weekly inspection of the facility, and eight times per annum.

Fly control systems have been installed within the recycling plant building within the immediate vicinity of the trommel. These control systems entails the periodic release of fly repellent/pesticide into the atmosphere. The systems are checked eight times annually.

g) Road Cleansing

The access road way to the facility is via a cul-de-sac from the R162 Navan-Kingscourt road. The general public do not normally use this road way. It is considered that mud generated by the movement of vehicles along this roadway is more probable to result from vehicles using the adjacent quarrying facility and not Midland Waste Disposal Ltd.

All hardstanding areas, within the facility, where there is traffic movement, is cleaned by a street cleaner approximately. three times a week. In addition, weekly inspections are carried out at the facility for the presence of muck/dirt on the roadways. Any material identified will be removed.