

ATTACHMENT H
ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

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H.1 Air

The potential environmentally significant effects on air quality from Joe McLoughlin Waste Disposal operations are dust, noise and odours.

H1.1 Dust

Impacts

Due to the quantity and nature of waste that is handled at Joe McLoughlin Waste Disposal site, there is the potential for dust generation, especially on hardcore ground and in dry weather through waste unloading, sorting and vehicle movements. Dust deposition monitoring has been carried out at four locations at the site boundary during site operations.

Dust deposition monitoring at the site boundary show that present dust emissions are unlikely to cause a nuisance.

However, Joe McLoughlin Waste Disposal plans to implement the following further mitigation measures in order to ensure that dust emissions will not cause a nuisance beyond the site boundary.

Mitigation measures

Mitigation measures will include;

- Sprinkling water or applying a fine water mist over dusty waste as its unloaded inside the transfer station building (especially construction and demolition waste).
- Covering/dampening any external dusty waste stockpiles of construction and demolition waste.
- Sweeping the transfer station building floor regularly and washing down the floor on a regular basis.
- Regularly washing down waste collection vehicles.
- Using a road sweeper on the facility yard during dry weather conditions.
- Other mitigation measures suggested by the Planning Authority or the EPA.

Site staff regularly clean and sweep the yard throughout the day (as needed). Waste collection vehicles are also regularly washed to remove mud from the tyres/undercarriage. Other mitigation measures suggested by the EPA or the Planning Authority will be considered.

H1.2 Odour

Odours from waste facilities are usually caused by the decomposition of readily degradable organic waste. Joe McLoughlin Waste Disposal currently handles approximately 6,900 tonnes of domestic waste or refuse at the facility. The waste is presented by the householder in either wheelie bins or bags and is collected using REL trucks (bin lorries).

A table of the typical composition of household waste is given below (taken from the **National Waste Database Factsheet Series 2001 issued by the EPA**).

Household waste	
Material	Composition %
Organics	32.2
Paper	22.3
Glass	4.4
Plastic	11.6
Ferrous metals	2.1
Aluminium	0.9
Other Metals	0.7
Textiles	3.7
Others	22.1

Therefore the organic fraction of this waste accounts for 32.2% of the total breakdown of the waste. It is the organic fraction that may give rise to mal-odours at the facility.

Nevertheless, for waste types such as dry, solid, non-hazardous commercial, industrial, household white goods and construction and demolition waste these usually contain very little biodegradable material, and odours are not generally an issue.

Impacts

Odour from industry and waste disposal facilities can have a significant negative impact on residents living close by and be a real concern for those affected. Odours are likely to arise from the Joe McLoughlin Waste Disposal facility due to the acceptance and handling of domestic waste.

Mitigation measures

All domestic waste will be accepted at the transfer station building and tipped on a concrete floor indoors. This waste will then be loaded using a teleporter to a bulk ejector trailer. When the ejector trailer is full the waste will be sent to landfill. All waste tipping, loading and temporary storage occurs indoors in the transfer station building. Waste loads arriving at the site are only temporarily stored prior to off-site removal.

The nearest dwellings to the site are tabulated below:

Residential Dwelling name	Location in relation to the site
Mulvey	75meters north-east of site
McLoughlin (applicant)	85meters west of site
Flynn	100meters north-west of site
McNulty	150meters north-west of site
McPartlan	125meters north of site
Gallagher	220meters south-east of site
Coggins	260meters south-west of site
Norris	280meters north-west of site
Farrells	350meters north-west of site

Any potential odours (should they leave the site) will be carried along with the prevailing wind in that direction. The prevailing wind is south westerly and therefore the Mullvey residence is most prone to experiencing this wind direction. To date there has been no complaints received from Mulleveys in relation to odours from the Joe McLoughlin Waste Disposal site.

Any potential leachate or liquid spills arising from the organic fraction of domestic waste in the transfer station building, will be collected internally using drainage gullies and diverted to the three chamber settlement tank. De-odourising chemicals e.g. disinfectants, can be used in the transfer station if needed to eliminate potential odours from this area. The overall volume of expected liquids generated in this area will be small due to the building being fully roofed and thus avoiding the mixing of rainwater will occasional small liquid volumes inside the transfer station.

H.2 Climate

Due to the size, nature and emissions from Joe McLoughlin Waste Disposal, there are no expected impacts on the climate on the area. Therefore no mitigation measures are planned.

H.3 Cultural Heritage

There are a number of important sites within 3km of the site. Joe McLoughlin Waste Disposal operations will not impact on any of these features. The site is currently operational and being used as a waste management facility. There are no archaeological finds/features on the site. It is expected that any archaeological or important finds would have been removed or recorded at the time the site was established approximately 17 years ago. There are no mitigation measures planned.

H.4 Ecology

The site covers an area of approximately 1.36 acres (5,520m²). Approximately 57% of the site is covered with concrete and buildings and the remainder is a hardcore covered surface. The site is located approximately 1km south-west of Drumshanbo town and is surrounded by farmland with some residential dwellings nearby. A commercial retail unit (Ardcolumn Stores) and a plant hire business are adjacent to the site. Site ecology consists of some hedgerow and grassland species. The dominant flora are weed species. Joe McLoughlin Waste Disposal operations have no significant impact on the ecology of the surrounding area. Vermin are controlled using a specialist contractor, on a monthly basis. There are no further mitigation measures planned.

H.5 Human Beings

Joe McLoughlin Waste Disposal have operated the waste management facility at the Ardcolumn location for over 17 years. Planning permission was granted on the 30th September 2003 (planning register reference no.: P.02/248) for '*retain existing reinforced concrete slab, and install a recycling and transfer facility for non hazardous domestic waste at Ardcolumn, Drumshanbo, Co Leitrim*'. In this time there have been no complaints from neighbours.

Traffic movements to the site do not have a negative impact on the traffic movements in the surrounding area. Noise monitoring has shown that noise emissions from the facility do not have a negative impact on the surrounding area especially at the nearest dwellings to the site. Consequently, Joe McLoughlin Waste Disposal operations do not have a negative impact on the local community.

The population of County Leitrim in 2002 was expected at 25,808 whilst Drumshanbo town accounted for approximately 623 persons. The largest population centre in the county is Carrick on Shannon (population of 1,842 in 2002) which is located approximately 10km south of the Joe McLoughlin Waste Disposal site. The Leitrim County Development Board estimates the number of private households for the county living in aggregate centres at only 5.5% with the remaining 94.5% been housed in rural areas. The settlement nature within the county is quite dispersed which reflects the dominance of agriculture within its economic structure (most significant sector of the local economy). The Leitrim County Development Plan 2003-2009 estimated a general population increase within the County from 1996 to 2002 in the order of 3% which was below the national average of 9% at the time. The same development plan also proposes a further steady increase in county population. With an increase in population there will be an increase in waste generation. According to the **National Waste Database Factsheet Series 2001** issued by the EPA the average per capita household waste generation in 2001 was 375kg. A further investigation on a county basis showed that County Leitrim had a household waste per capita value of 876kg in 2001. This was the highest value in the Country at the time. Hence more waste is being produced per household in County Leitrim than any where else in the Country.

Joe McLoughlin Waste Disposal proposed site will manage and recycle much of this waste along with waste from Counties Roscommon and Cavan.

Therefore Joe McLoughlin Waste Disposal will have an overall positive impact on the population of Leitrim and the surrounding Environs of Roscommon and Cavan. The proposed site operations will also have a positive contribution to the Connaught Waste Management Plan.

Impacts

The Joe McLoughlin Waste Disposal facility has an overall significant positive human impact. These include the provision of jobs, the collection, removal, recovery and disposal of up to 7,000 tonnes/year of waste from Counties Leitrim, Roscommon and Cavan.

Joe McLoughlin Waste Disposal's operations provide employment for local people, provide a public health service by collecting waste and help the Local Authorities to meet the regional (and national) waste recycling targets.

Potential adverse impacts on local residents and the environment include dust, odour, noise, litter and vermin. These have been addressed in this application.

Mitigation measures

Dust, odour, vermin and noise impacts have been addressed elsewhere in this application. These impacts will be managed and controlled by Joe McLoughlin Waste Disposal to reduce the impact on local residents and surrounding environment. Litter will be controlled by ensuring good house keeping measures at the site, handling waste inside the transfer station building, covering waste skips and daily litter patrols at the site boundary. There are no further mitigation measures planned.

H.6 Hydrogeology

Impacts

The Joe McLoughlin Waste Disposal site surface is concrete with a small area covered in hardcore surface. The company does not dispose of waste onsite. There have been no detailed groundwater site investigations carried out. A desk review and discussions with Leitrim County Council suggests that the Joe McLoughlin Waste Disposal site is not located over a regionally or locally important aquifer. Further details of existing site geology and hydrogeology are given in attachment C.6

Mitigation measures

As part of future site development plans, Joe McLoughlin Waste Disposal intends to extend the concrete areas of the site to cover all areas where waste handling and storage will occur. All site machinery and road vehicles will be fuelled at the neighbouring plant hire yard. Proposed site drainage will ensure that all storm water run-off from concreted areas will be diverted to soak away via an interceptor unit.

These site developments will further help to reduce the potential impact of the activity on ground and groundwater quality. There are no further mitigation measures planned.

H.7 Landscaper

Impacts

Joe McLoughlin Waste Disposal is situated on the outskirts of Drumshanbo town in a rural setting. The site itself is located beside existing commercial businesses. These are Joe McLoughlin Plant Hire and Ardcolumn Stores both also in the ownerships of the applicant. The entrance to the waste management facility is approximately 5 meters off the main road. The location of the transfer station building is to the rear of the site (approximately 80 m off the main road). There is an administration building, plant hire garage, retail shop and stores building all partially shielding the transfer station from view from the main road. The aforementioned building along with the paint spraying building effectively screen of most of the site yard and the empty skip storage area. The waste management site has been in operation for approximately 17 years. The site entrance is appropriate to the nature and scale of operations.

Mitigation measures

Presently the front of the site (western boundary) has in part a concrete wall approximately 7 feet high and palisade fence also 7 feet high. An in-situ cast concrete wall approximately 2.75 meters high followed by a high soil mound planted with deciduous trees and hedging provides a boundary between the Joe McLoughlin Waste Disposal site and the land immediately north of the site (in the direction of Mulvey's and McPartland's residences).. This gives effective screening of the site from view with the exception of the top part of the transfer station building (see Plate 1). The site boundary to the east direction has screening consisting of bramble and mixed deciduous trees. The rear of the transfer station building also provides screening of the yard area from view along this boundary. The south boundary of the site will have a palisade fence (7 feet high) to separate the waste management site from the Joe McLoughlin Plant Hire business. Furthermore the south boundary of the plant hire site consists of deciduous trees and hedging which effectively give additional screening of the waste management site from view in the direction of the Ardcolumn Lough (see plate 2).

Proposed mitigation measures include;

- Fully enclosing the transfer station building by extending the roof of the building (planning permission has been granted by Leitrim County Council for this development.
- Maintaining the existing screening along the boundaries of the site.
- Addition of palisade fence along the south boundary of the site in order to separate the Joe McLoughlin Plant Hire business from the waste management site.
- Other mitigation measures suggested by the Planning Authority or the EPA will be considered.

H.8 Noise

Impacts

A noise survey was carried out at the Joe McLoughlin Waste Disposal site on the 23rd June 2004 as part of the waste licence application. The noise survey was carried out during normal site operations.

The EPA guidelines stipulate a day-time Laeq of 55dBA and a night-time Laeq of 45dBA at noise sensitive locations. The noise survey shows that the Laeq noise levels at the site boundaries were between 50.4dBA and 68.8 dBA Laeq. Noise levels at the nearest sensitive locations were recorded as being between 47.8 dBA and 64.0 dBA Laeq.

Noise emissions from site operations were **not** deemed to have a nuisance effect on the surrounding environment. Furthermore, the nature and future scale of site operations is not expected to have an overall increase in noise emissions in the area.

Mitigation measures

The main potential noise sources from Joe McLoughlin Waste Disposal operations includes;

- Waste vehicle movements
- Waste handling (tipping, sorting, baling, shredding, tromeing and moving)

The highest noise level at the noise sensitive locations (64.0 dBA Laeq) can be associated mainly with passing traffic and to a lesser extent waste activities at the waste management site. The remainder noise sensitive locations all had noise readings below 55 dBA Laeq which is within the EPA BATNEEC Guidance Note relating to noise from industrial sites. However in order to ensure that there will be no potential nuisance noise conditions coming from the site due to future site operations, Joe McLoughlin Waste Disposal proposes the following mitigation measures:

These measures will include;

- Waste acceptance, tipping and sorting all occurring inside the transfer station building. This building will be full enclosed and roofed. All waste sorting, tromeing, baling, shredding and moving will occur inside this building.
- A separate building (store building) may be used for cardboard and paper baling and storage of the bales on-site.

- The site boundaries will be a mixture of in-situ concrete walls approximately 2.75 metres high and mature hedgerows consisting of deciduous trees and hedging. The existing site boundaries will help to reduce potential noise emissions leaving the site.
- A diesel plant will be used for electricity generation at the site to power large machines (shredder and trommel). This plant will only be used on an intermittent basis.
- Any other mitigation measures proposed by the EPA or Planning Authority will be considered.

H.9 Discharge to Surface Water

Impacts

The potential impacts to surface water from the Joe McLoughlin Waste Disposal site are minimal. The surface water from the yard area will be discharged to an open land drain which flows in the direction of the Ardcolom Lough. Roof-rain water from site building will be discharged to soak-away areas separately.

Surface water discharge impacts from the site are as follows:

- Surface water runoff from the site yard and the neighbouring Joe McLoughlin Plant Hire company yard area flows into gullies, which direct the flow into a retention tank (capacity 200m³) before discharge to an open land drain in the direction of the lake (Ardcolom Lough also known as Blackrock Pond). An interceptor unit (oil separator and sludge trap) is present between the retention tank and the soak-away area to treat the water discharge for oils and silts.
- Roof rainwater from the administration, store and paint-spray buildings is directed underground to a drainage pipeline system and subsequently flows into a separate soak-away area in the direction of the lake.
- Roof rainwater from the transfer station is directed to a separate soak-away system.
- A waste water system is present on site to deal with domestic sewerage.

The wash down liquid spills present from operations in the transfer station, and the effluent generated at the truck wash bay, will be treated by a three chamber silt separator, followed by three stage interceptor unit (oil separator and sludge trap). The resultant treated water will be discharged to soak-away in the direction of the lake.

Mitigation measures.

Proposed mitigation measures include the following items. Storm water from all areas covered with concrete will be diverted to the drainage point located along the south-eastern on the site via a newly constructed interceptor. After treatment by the interceptor the quality of the storm water run-off entering the drainage point will be adequately clean and non-polluting. Roof rainwater will drain directly via gullies and pipe-work system to the same drainage ditch along the west of the site.

Any potential firewater run off from the site could be a potential source of surface water contamination. However, due to the nature of the activity being carried out on site and the types of waste handled the risk of fire is low. There will be minimal quantities of hazardous, flammable or dangerous chemicals stored on site. These will be stored in the Spray Building on site. A small maintenance garage area is located inside the Plant Hire company area for routine vehicle servicing. Any spills inside this area will be contained internally. All major repairs will be carried out off-site.

Joe McLoughlin Waste Disposal intends to implement an environmental management system (EMS) for the site. As part of EMS, the emergency response procedure will include provision for protecting the open drain and Ardcolum lough from firewater run off in the unlikely event of a fire occurring at the site.

Joe McLoughlin Waste Disposal will also include a manual shut off valve on the 200m³ retention tank that can be closed off in the event of a major spill or firewater being generated on the site. Containment booms and drain covers (contained in a spill kit barrel to be situated close by the retention tank) will be used to further contain the offending liquids above ground. This will further prevent contamination of the land drain from the site.

H.10 Discharge to Sewer

There will be no discharge to sewer from the facility. All domestic sewage from the facility will be treated by a waste water system with polishing filter and percolation area and will be maintained in accordance with the manufacturer's specifications. The estimate volume of sewage per week is approximately 2m³. There are no further mitigation measures proposed.

**JOE MCLOUGHLIN WASTE DISPOSAL
NOISE SURVEY
Date: 23rd June 2004**

Border Locations (BL)

Location	Weather	Time Start	Duration	L5	L10	L50	L90	Leq	Comments
N1. site entrance	Overcast, spitting rain cool.	11:23	30 min	69.3	63.6	48.3	45.4	63.5	A crane operating at the sorting shed can be heard, drainage from the site falls a ½ meter close to the meter, birdsong, wind shaking a tree are all constant sounds. Passing traffic on the country road include: 25 cars, 14 vans, 3 Lorries
N2. northern corner of site	Overcast, cool.	11:59	30 min	77.8	68.1	59.7	54.8	68.8	Site operations: sorting of waste in adjacent shed, dump trucks loading and unloading of skips. Teleporter moving waste in sorting shed. Artic moving into lower section of shed. Dump truck parked in neutral within 30' of meter. Dump truck started beside the meter (high revs and warming up of engine for 4 minutes). Hammering and welding at Plant Hire company.

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Border Locations (BL)

Location	Weather	Time Start	Duration	L5	L10	L50	L90	Leq	Comments
N3. lower bay of sorting shed	Overcast, spitting rain cool.	12.35	30 min	67.7	67.1	57.7	49.8	62.0	Artic detaching trailer, crane at work in sorting shed, 2 vans moving through the yard. Wheelie bin van unloading, washing and loading clean bins. 2 (separate) conversations near the meter, Lorry parked in neutral near to the meter. Gully carrying water from sorting shed roof falls to drainage within 10 meters of meter
N4. wheelie bin and wash yard	Overcast, spitting rain cool.	13.10	30 min	56.0	54.0	44.5	41.6	50.4	Birdsong, hum of traffic on road, wheelie bin lid banging off its body. 4 vehicles moving in and out of Plant Hire premises (2 cars, 2 vans). Dump truck unloading skip @ sorting shed, crane starting work, artic truck (no trailer present) starts up nearby and departs area.

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Noise Sensitive Locations (NSL)

Location	Weather	Time Start	Duration	L5	L10	L50	L90	Leq	Comments
N5. nearest house to site	Overcast, spitting rain cool.	13:50	30 min	70.1	64.6	48.2	43.1	64.0	Birdsong, and passing traffic main background sounds. Traffic on road include: 35 cars, 4 vans, 3 Lorries, 1 tractor, 1 bus. A van entered and left the house. A Helicopter could be clearly heard doing several circuits of nearby fields.
N6. nearest dwelling to the north-north east of site	Overcast, spitting rain cool.	14:30	30 min	58.2	56.7	49.5	46.1	52.8	Birdsong, trucks moving in the Plant Hire, Skip trucks unloading and loading skips, lorry entering Plant Hire. Heavy Goods Vehicles on road. Truck parked in neutral within the sorting shed, crane sorting waste in shed, teleporter at work in the sorting shed.
N7. nearest dwelling north of site	Overcast, spitting rain cool.	15:10	30 min	52.2	50.7	46.0	42.2	47.8	Crane at work in sorting shed, dump truck entering site, traffic moving on road, helicopter flying around fields to the north, calves and cows moving and eating in adjacent field, teleporter at work in sorting shed, tractor moving in Plant Hire holding yard.

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Noise Sensitive Locations (NSL)

Location	Weather	Time Start	Duration	L5	L10	L50	L90	Leq	Comments
N8. nearest dwelling to the south of site	Overcast, spitting rain cool.	16:17	30 min	55.7	53.9	47.7	42.9	50.3	Wind rustling vegetation (grasses, sedges, some small bushes), birdsong, traffic moving on country road, trucks moving in Plant Hire, crane moving on McLoughlin site, Building (hammering) on new shed at Plant Hire, power washing on site.

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