

Attachment A.1.

Non-Technical Summary

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A.1. Introduction

The following Non-Technical summary has been provided in accordance with the requirements of Article 12 (1) (u) of the Waste Management (Licensing) Regulations, S.I. 395 of 2004.

All figures referred to within the Non-Technical Summary are included in Attachment N of the Waste Management Licence Application Document.

Sand and Gravel Merchants Ltd, Upper Punchestown, Rathmore, Naas, County Kildare intend to apply to the Environmental Protection Agency for a waste licence for the continued operation of its existing waste recovery facility on lands at Thornberry Townland, Kill, Co. Kildare (National Grid Reference 295986E 221275N) (Refer to Figure A.1).

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It is proposed that up to 220,000 cubic metres per annum of inert materials will be accepted to site.

The principal activity is Class 4 (recycling or reclamation of inorganic materials) of the Fourth Schedule of the Waste Management Act, 1996 to 2008. Other activities include Class 13 of the Fourth Schedule (temporary storage pending recycling or reclamation).

In Compliance with Article 12 (1) (u) of the Waste Management (Licensing) Regulations, S.I. 395 of 2004 we have presented below a non-technical summary of the information provided in accordance with paragraphs (a) to (t) of sub-article 12(1) of the said regulations.

A.1.(a) give the name, address and, where applicable, any telephone number and telefax number of the applicant (and, if different, the operator of the facility concerned), the address to which correspondence relating to the application should be sent and, if the applicant or operator is a body corporate, the address of its registered office or principal office,

Applicant's Details

Name*: SAND & GRAVEL MERCHANTS LTD

Address: THORBERRY,
KILL,
CO. KILDARE

Tel: 01/ 4582324

Fax: Not Applicable

e-mail: Not Applicable

Name and Address for Correspondence

Name: J SHEILS PLANNING & ENVIRONMENTAL LTD

Address: 31 ATHLUMNEY CASTLE,
NAVAN,
Co. MEATH

Tel: 046/ 9073997

Fax: 046/ 9020618

e-mail: johnsheils@jspe.ie

Address of registered or principal office of Body Corporate

Address: SAND & GRAVEL MERCHANTS LTD
UPPER PUNCHESTOWN,
RATHMORE
CO. KILDARE

Tel: 01/ 4582324

Fax: Not Applicable

e-mail: Not Applicable

A.1.(b) give the name of the planning authority in whose functional area the relevant activity is or will be carried on,

Name: KILDARE COUNTY COUNCIL

Address: Áras Chill Dara
Devoy Park, Naas,
Co Kildare

Tel: (045) 980200

Fax: (045) 980240

A.1.(c) in the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled,

Not Applicable (Surface water run-off only)

A.1.(d) give the location or postal address (including, where appropriate, the name of the townland or townlands) and the National Grid reference of the facility or premises to which the application relates,

Name: SAND & GARVEL MERCHANTS LTD

Address*: THORBERRY ,
KILL,
CO. KILDARE

Tel: 01/ 4582324

Fax: Not Applicable

e-mail: Not Applicable

National Grid Reference (8 digit 4E,4N)	295986E, 221275N
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A.1.(e) describe the nature of the facility or premises concerned, including the proposed capacity of the facility or premises and, in the case of an application in respect of the landfill of waste, the requirements specified in Annex 1 of the Landfill Directive,

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It is proposed that up to 220,000 cubic metres per annum of inert materials will be accepted to site

Restoration of the active pit workings is at present subject to compliance with the existing WMP 30/2001B.

The phased scheme for final restoration of the area is shown by Figure B.2.4. The volume of material required to be imported to the site to complete the proposed restoration scheme has been calculated (using the Digital Terrain Modelling Software Package LSS) and is shown below.

It is proposed that that the void space will be filled within 1 to 5 years (subject to market conditions).

Volume of Void Space Remaining at Thornberry Site, Kill, Co. Kildare

Phase	Void Space m³	*Compacted Volume m³	**tonnes
1	90000	100000	200000
2	90000	100000	200000
Totals	180000	200000	400000

Notes:

* An approximate settlement factor of 10% has been assumed following placement of materials.

** Assumes density of imported soils as 2 tonnes/m³

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone and recovery of clean construction and demolition waste. It is estimated that between 8,000 to 40,000 tonnes per annum (subject to market conditions) of inert construction and demolition waste will be recovered at the facility for the duration of the restoration works. Recovered material will be used for internal haul roads and/or dispatched offsite. Currently this material is being used at the neighbouring Arthurstown Landfill Facility.

A.1.(f) specify the class or classes of activity concerned, in accordance with the Third and Fourth Schedules of the Act and, in the case of an application in respect of the landfill of waste, specify the class of landfill in accordance with Article 4 of the Landfill Directive,

The principal activity is Class 4 (recycling or reclamation of inorganic materials) of the Fourth Schedule of the Waste Management Act, 1996 to 2008. Other activities include Class 13 of the Fourth Schedule (temporary storage pending recycling or reclamation).

A.1.(g) specify, by reference to the relevant European Waste Catalogue codes as presented by Commission Decision 2000/532/EC of 3 May 2000 11 , the quantity and nature of the waste or wastes which will be treated, recovered or disposed of,

Waste material	EWC Code	Quantity		On-site recovery/disposal ² (Method & Location)
		Tonnes / month	m ³ / month	
Concrete	17 01 01	666 - 3,340	333 - 1,670	Will be used to construct haul roads and hardstanding areas on site and/or processed for secondary aggregates As Above As Above As Above As Above As Above
Bricks	17 01 02			
Tiles & Ceramics	17 01 03			
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07			
Track ballast other than those mentioned in 17 05 07	17 05 08			
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04			
Soil and stones other than those mentioned in 17 05 03	17 05 04	6,670 - 33,340	3,335 - 16,670	
Dredging spoil other than those mentioned in 17 05 05	17 05 06			Used to restore sand & gravel pit workings

A.1.(h) specify the raw and ancillary materials, substances, preparations, fuels and energy which will be utilised in or produced by the activity,

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such the material does not undergo any form of processing involving the use of chemicals or additives.

The water supply for the site office and wheelwash is met by an existing borehole on site. On days requiring dust suppression water usage would amount to 5 to 10 m³ per day.

The only raw materials used on site are diesel, hydraulic oil and engine oil which will be used to operate diesel powered plant on site. The mobile double skinned (integrated bunding) fuel bowser will have a capacity of c.750 litres and will be refueled weekly.

A.1.(i) describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems and operating procedures for the activity,

The attached Site Infrastructure Plans (Refer to Figures D.1.1 & D.1.2) indicate the location of all activities and identifies all buildings and facilities at the Recovery Facility.

Materials to be recovered will only be accepted from approved Contractors who are aware of the need for and who undertake strict segregation and sorting of waste prior to transporting it to the application site.

All truck loads entering the site will be given a preliminary visual inspection on entering the site. If the material is not considered acceptable the haulier will be refused entry and directed to an appropriate Waste Management Facility. Any Contractor who persistently carries unacceptable waste to the application site will be denied further use of the facility. Details of all truckloads entering the site are entered into a logbook maintained by the operator.

Accepted materials will be subject to a second inspection after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility.

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

Following the second inspection the material will be accepted and placed within the restoration (placement by bulldozer) area or in the case of topsoil placed in temporary storage awaiting final placement.

The lands have been progressively restored subject to successive WMP's dating back to 2001. The phased scheme for final restoration of the area is shown by Figure B.2.4.

The lands are to be restored to agricultural use by importation and recovery of inert materials in accordance with a phased restoration scheme. It is the intention to develop them for agricultural use.

A bulldozer is used to appropriately grade and compact the material to the desired profile as shown by the detailed plans and sections (Refer to Figures B.2.4 and B.2.5).

Once the topsoil is re-instated it will be seeded with a suitable mix of grasses suitable for pasture in order to quickly stabilise the topsoil. Once the grass sward has become established the restored farmland can be kept either as pasture, hay meadow or arable land.

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of pit activity.

Clean construction and demolition waste will either be placed directly on haul roads or temporarily placed in storage awaiting recovery.

Dust Abatement

A number of measures have been adopted to minimise dust emissions to the atmosphere from general site activity, internal haulage and tipping operations as follows:

- During dry weather the haul roads and stockpiles are sprayed with water to dampen any likely dust blows. A water bowser is maintained on site for this purpose.
- Consideration will be given to location of mobile plant so as to ensure that any principle dust sources cannot adversely affect sensitive off-site locations.
- Static and mobile wet dust suppression systems will be located at strategic points in the process if required.
- Drop heights are kept to a minimum by using short conveyors and maintaining stocks under the head drum load out points.
- The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to the public road
- Main site haulage routes within the site shall be maintained with a good temporary surface, as is the case at present.
- All internal roadways will be adequately drained, to prevent ponding.
- Suitable vegetation is to be provided on restored areas at the earliest opportunity.

Surface Water Abatement

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of surface and/or ground waters.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.

A mobile double skinned (integrated bunding) fuel bowser is proposed to be used to refuel mobile plant on site.

Oil and Waste oil products are stored under cover. All oil barrels and lubricants will be stored on spill pallets/ spill trays. Waste oils are disposed of by a licensed waste contractor and removed off site.

Spill kits will also maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

Noise Abatement

A number of noise containment measures are proposed:

- The provision of temporary peripheral screen banks to screen site activities from outside views.
- General site activity will be within the existing pit and below the level of the nearest residences.
- The use of designated haul roads to ensure that site traffic is removed from nearest noise sensitive receptors.
- Regular maintenance of all plant and machinery is an integral part of site management and is important in helping to minimise noise impact.
- All plant and equipment will conform to noise emission limits set out in Statutory Instrument No. 320 of 1998 European Communities Construction Plant and Equipment- Permissible Noise Levels (Regulations, 1998) and amendment set out in Statutory Instrument No. 359 of 1996.
- Noise monitoring can be carried out at four noise monitoring stations (N4-N5) in the vicinity of the nearest noise sensitive properties (Refer to Figure F 1) in accordance with any monitoring programme agreed with the EPA.

The results of monitoring to date shows that the development can comply with the noise level threshold as specified and as a consequence the development will have no significant effects regards noise levels in the area.

A.1.(j) provide information for the purpose of enabling the Agency to make a determination in relation to the matters specified in paragraphs (a) to (g) of section 40(4) of the Act,

Due consideration has been given to the requirements of Section 40(4)[(a) to (i)] of the Waste Management Acts 1996-2008 through preparation of the Waste Management Licence Application as follows.

An Environmental Management System is proposed to be put in place with continued environmental monitoring of noise, dust and groundwater on site. Details with respect to control and abatement, accepted emission limit values and monitoring requirements are provided in the Waste Management Application (in particular refer to Attachment F). The measures proposed will ensure that emissions from the recovery activities will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value.

Details with respect to the nature, scale, operation, impact, control and abatement, monitoring, closure and aftercare have been provided through preparation of the Waste Management Licence application. The measures proposed are considered adequate to ensure that the facility will continue to be operated in accordance with any conditions attached to the licence and the landfill directive so as not to cause environmental pollution.

The only waste to be accepted at the facility for restoration of the lands will comprise inert soils and stone, and inert construction and demolition waste. As such the material does not undergo any complicated process other than inspection prior to recovery and placement. As such there is little or no requirement to apply Best Available Technology (BAT) with respect to the recovery operations.

The continued operation of an inert waste recovery operation will significantly reduce the quantities of such waste currently being sent to landfill sites in the Region. As such, the proposed development is entirely consistent with the aims and objectives of both National Regional and Local government policy.

The applicants (Sand & Gravel Merchants Ltd) or other relevant person have not been convicted under the Waste Management Acts 1996 to 2003, the EPA Act 1992 and 2003, the Local Government (Water Pollution) Acts 1977 and 1990 or the Air Pollution Act 1987.

Sand & Gravel Merchants Ltd is an established small family run business based in Thornberry, Co Kildare. Mr Tom Gavin – Facility Manager will be responsible for the overall management of the facility including implementation of the proposed Environmental Management System. The facility manager has 24 Years experience in the extraction industry including 8 years in operating & Managing the existing Waste Recovery Management Facility.

The Company are in position to to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the Waste Licence Application relates, or in consequence of ceasing to carry out that activity.

The only raw materials used on site are diesel, hydraulic oil and engine oil which will used to operate diesel powered plant on site. Energy efficiencies will be achieved by using modern plant and equipment and servicing the equipment on a scheduled basis.

Noise emissions generated from the site activity will continue to be monitored and controlled to an acceptable standard as conditioned under the existing planning permissions and any further conditions under an EPA waste licence for the proposed restoration of the site.

A.1.(k) give particulars of the source, location, nature, composition, quantity, level and rate of emissions arising from the activity and, where relevant, the period or periods during which such emissions are made or are to be made,

Air

The materials to be recovered are principally “soils and stone” and inert construction and demolition waste. Any dust generated by the operation will comprise inert particulate matter. Dust emanates from the placement of materials, the movement of vehicles on internal roads and loading and processing operations. However the effect of wind is also an important factor in dust generation and problems may arise at reclamation workings when both factors arise simultaneously. The impact of fugitive dust will be direct, temporary and non-cumulative and largely confined to the application site.

Surface Water

As the only material to be imported to site is “Soil and stone” and inert construction and demolition waste there will be no source of possible contamination of surface waters. The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.

Sewer

On site activities will not discharge to any sewerage system. It is proposed to use a portable chemical toilet for the site. The portable toilet will be maintained under contract and serviced as required.

Groundwater

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of groundwater waters. The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations.

Due to the nature of material to be deposited the potential for pollution to the underlying aquifer and the surface watercourses will be limited.

Noise

The main source of noise and vibration on site is from:

- Movement of trucks on internal haul roads and tipping of material
- Bulldozer placing and grading the infill material
- Processing Plant

Noise monitoring to date has shown that site activity at the existing facility are within accepted thresholds for this type of development.

A.1.(l) give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than that into which the emissions are, or are to be, made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit or abate such emissions,

Air

The materials to be recovered are principally “soils and stone” and inert construction and demolition waste. Any dust generated by the operation will comprise inert particulate matter.

Dust emanates from the placement of materials, the movement of vehicles on internal roads loading and processing operations. However the effect of wind is also an important factor in dust generation and problems may arise at reclamation workings when both factors arise simultaneously. The impact of fugitive dust will be direct, temporary and non-cumulative and largely confined to the application site.

The relatively high rainfall of the area, and experience of similar environments elsewhere in Ireland, suggests that baseline dust levels of approximately 40 mg/m²/day to 60 mg/m²/day would be expected for an open pastoral landscape during drier periods of the year (May to September).

Dust monitoring stations are proposed at two locations (A2-4 and A2-5). The two dust monitoring locations are shown by Figure F.1. Routine dust deposition monitoring will be carried out Bi-annually and shall not exceed 350 milligrams per square metre per day averaged over a continuous period of 30 days.

A number of measures have been adopted to minimise dust emissions to the atmosphere from general site activity, internal haulage, processing and tipping operations (Refer to Section A.1.(i) above).

It is considered given the nature of the activity, control and abatement measures and management of the existing recovery facility that emissions of pollutants (as defined in Waste Management Acts 1996 to 2003 and Air Pollution Acts 1992 and 1987 respectively) to the atmosphere are not likely to impair the environment (i.e. be injurious to public health, or have a deleterious effect on flora or fauna or damage property, or impair or interfere with amenities or with the environment).

Surface Water

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of surface waters.

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of surface waters.

The nearest watercourse to the application site is the Kill River (c. 550 metres to the north), a smaller tributary of this river forms the eastern boundary of the landholding.

The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.

Ground/groundwater emissions

It is considered that the inert materials used for the restoration of the site will not cause a pollution risk to the ground/groundwater in the area of the site.

A detailed ground investigation study of both the lands restored and currently under restoration has been carried out. This report provides a description of the geological character of the already-filled subsoils on the site. Trial pits and a visual assessment of the site were completed in the field.

Trial pits were excavated to depths ranging from 2.6m to 3.3m below ground level. The imported subsoil material across the site is relatively consistent. In general the overall amount of inert construction and demolition waste within on-site is very small and the material has been well emplaced and well separated and sorted. In an overall sense, the amount of construction and demolition material is estimated as less than 10% over much of the facility. Much of this material is close to the surface, and it is proposed that this material is recovered for use for construction of haul roads and for secondary aggregates. These measures should result in a reduction of the overall percentage of construction and demolition material within the site to less than 5%.

The aquifer classification for the bedrock in the area is classified as a Poor Aquifer.

No source protection areas were identified within c. 2.5km of the site (Refer to Figure I.4.4). Therefore the site is not subject to the restrictions or requirements of a groundwater source protection zone.

The sand and gravel deposits are known to overlie deposits of boulder clay and silts which have been reported in places to be over 15m thick. As such the actual vulnerability rating within the site is considered to be moderate to low. The boulder clay provides natural protection to the bedrock aquifer.

Groundwater quality is currently monitored at the site in compliance with the Waste Management Licence for the adjoining Arthurstown Landfill Facility (EPA Registration No. W0004-03). A groundwater monitoring programme will also be put in place to ensure that there is no impact on water quality as a result of the recovery operations.

Noise

The lands are being restored to agricultural use by importation and recovery of inert materials in accordance with a phased restoration scheme. Designated internal haul roads are used to direct site traffic to the current tipping area. A bulldozer is used to appropriately grade and compact the material to the desired profile as shown by the detailed plans and sections (Refer to Figures B.2.4 and B.2.5). There is also intermittent noise associated with the sand and gravel pit and Construction and Demolition processing operations.

The principle concern in respect of potential noise emissions from the development is the effect on residential amenity. Properties within the vicinity of the development are shown on Figure B.2.2. As shown the nearest noise sensitive locations are to the north and west. The residence to the north belongs to the landowner of the application site.

The main noise sources in the area are from the Country Road and an adjacent Arthurstown Landfill Facility. Noise monitoring to date has shown that site activity at the existing facility are within accepted thresholds for this type of development.

Noise resulting from the operations can be kept to acceptable levels by the implementation of good design, effective operation and management and by the adoption of 'best practices'. Reducing noise at source wherever possible is the most effective way of minimising the impact but barriers and screens between noise source and receptor can also be used to very good effect. A number of noise containment measures are proposed (Refer to Section A.1.(i) above).

A.1.(m) identify monitoring and sampling points and indicate proposed arrangements for the monitoring of emissions and the environmental consequences of any such emissions,

Air

The existing waste management permit (WMP 30/2001B) does not specifically set any limits on dust for the site *“The permit holder shall take adequate precautions to prevent undue noise, fumes, dust, grit, untidiness, and other nuisances during the course of the works which would result in a significant impairment of or a significant interference with amenities or the environment beyond the site boundary. “*

It is proposed that the operator set up a dust monitoring programme using Bergerhoff Dust Gauges. Two dust monitoring stations (A2-4, A2-5) will be established at the site boundary (Refer to Environmental Monitoring Plan Figure F 1.0).

Dust fall is measured using the Bergerhoff method as set out in German Standard VDI 2119. The normal recommended standard for dust emissions for this type of development is that *“dust deposition shall not exceed 350 mg/m²/day measured at the site boundaries and averaged over 30 days”*.

The above standard is also in accordance with guidance issued by both the Department of the Environment and the EPA in relation to dust deposition monitoring for these types of developments and will continue to be applied.

This programme will allow ongoing monitoring of fugitive dust emissions from the site, thereby assisting in ensuring compliance with any future requirements or regulations.

Surface Water

The nearest watercourse to the application site is the Kill River, of which a smaller tributary of this river forms the southern boundary of the landholding.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary. It is not considered necessary to monitor surface water in the area.

Groundwater

There are two wells on site (Refer to Environmental Monitoring Plan Figure E 1.0).

It is proposed to monitor these wells in accordance with the conditions as attached to the waste licence for the facility. It is not considered that any discharge of surface water run-off to ground will result in any significant effect on the quality of the groundwater.

Noise

The operator will establish an environmental monitoring programme to include noise monitoring. Noise levels will continue to be monitored in accordance with ISO 1996/1 – 1982 (E) *“Acoustics – Description and measurement of environmental noise”*.

Two noise monitoring stations which correspond with the dust monitoring locations and include the nearest noise sensitive location are proposed (Refer to Figure F 1.0). It is proposed to carry out noise monitoring on a bi-annual basis.

In accordance with the Environmental Protection Agency Integrated Pollution Control Licensing Guidance note for Noise in relation to Scheduled Activities 2nd Edition (2006) *“the noise attributable to on-site activities should not generally exceed a free-field L_A,T value of 55 dB by daytime (08:00 – 22:00), at any noise sensitive location. During night-time (22:00 – 08:00), the noise attributable to on-site activities should not exceed a free-field L_Aeq, T value of 45 dB”*.

It is therefore considered that the above EPA threshold should be applied for this development as this limit is a recognised standard within the industry and is a limit that is set by most of the Local Authorities. These levels are consistent with guidance issued by the Department of the Environment: *“Quarries and Ancillary Activities – Guidelines for Planning Authorities (2004) DOEHLG”* and the EPA *“Environmental Management in the Extractive Industry (Non-Scheduled Minerals) Environmental Management Guidelines (2006)”*.

The results of monitoring to date shows that the development can comply with the noise level threshold as specified and as a consequence the development will have no significant effects regards noise levels in the area.

This programme will allow on-going monitoring of noise emissions from the site, thereby assisting in ensuring compliance with any future requirements or regulations.

Through implementation of the proposed mitigation measures it is considered the development will continue to have no significant effects with regard to noise levels on the local residences, their property, livestock and amenity.

A.1. (n) describe any proposed arrangements for the prevention, minimisation and recovery of waste arising from the activity concerned,

Occasionally a load will contain minor contaminants (e.g. plastics, metal, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate recovery/disposal facility.

Waste oil products are stored within the existing container on site. Waste oils are disposed of by a licensed waste contractor and removed off site. All oil barrels and lubricants are stored on spill pallets/ spill trays. The operator will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

A.1.(o) describe any proposed arrangements for the off-site treatment or disposal of solid or liquid wastes,

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

A.1.(p) describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected emissions and minimise the impact on the environment of any such emissions,

The operator is to put in place an Environmental Management System (EMS) which will address such matters as Emergency Preparedness & Response in dealing with accident and emergency situations resulting in effects on the environment.

An emergency telephone contact list will be maintained at the site entrance and administration office in Rathmore.

It is considered that accidents and emergency situations resulting in effects on the environment is confined to possible emissions to surface and/or groundwater in the event of a fuel spillage. As such the following Emergency/Spill Response Procedures will be put in place.

The main risk associated with oil or chemical spills is the potential for the spill to enter drains, watercourses, soils and the ground water system, causing contamination and / or fire or explosion risk.

It should be noted that significant emphasis has been placed on control and abatement measures to ensure there is no risk to surface and /or groundwater i.e.

- A mobile double skinned (integrated bunding) fuel bowser will be used to refuel mobile plant on site.
- Waste oil products are stored within the existing container on site. Waste oils are disposed of by a licensed waste contractor and removed off site.
- All oil barrels and lubricants are stored on spill pallets/ spill trays.
- Spill kits are also maintained on site.
- Any inappropriate materials discovered (e.g. glass, plastic, timber, steel, etc) will be stored within the designated quarantine area awaiting removal off site by an approved waste collection contractor to an approved facility.

A.1.(q) describe the proposed measures for the closure, restoration, remediation or aftercare of the facility concerned, after the cessation of the activity in question,

The lands are to be restored to agricultural use by importation and recovery of inert materials in accordance with a phased restoration scheme. On completion of each phase of development final restoration including grading, seeding and landscaping will be carried out. The final contours and topography for the site is shown by the Final Landform Plan Figure B.2.4 and Cross Sections B.2.5.

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of pit activity.

There will be no on-going requirement for environmental monitoring after extraction operations have ceased. A final site inspection 6 months after site closure will be carried out to ensure that the final site restoration scheme implemented is functioning and progressing as required.

A.1.(r) in the case of an application in respect of the landfilling of waste, give particulars of –

(i) such financial provision as is proposed to be made by the applicant, having regard to the provisions of Articles (7)(i) and (8)(a)(iv) of the Landfill Directive and section 53(1) of the Act, and

(ii) such charges as are proposed or made, having regard to the requirements of section 53A of the Act,

Sand & Gravel Merchants Ltd are an established family run business. The Company are in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the waste licence Application relates, or in consequence of ceasing to carry out that activity.

A.1.(s) state whether the activity is for the purposes of an establishment to which the European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2000 (S.I. No. 476 of 2000) apply,

The European Communities (Control of Major Accident Hazards involving Dangerous substances) Regulations, 2000 (S.I. No. 476 of 2000) do not apply as the establishment only accepts inert material for recovery.

A.1.(t) in the case of an activity which gives rise or could give rise to an emission into an aquifer containing the List I and II substances specified in the Annex to Council Directive 80/68/EEC of 17 December 1979, describe the existing or proposed arrangements necessary to give effect to Articles 3, 4, 5, 6, 7, 8, 9 and 10 of the aforementioned Council Directive,

It is not anticipated that any List I and List II substances will be discharged to groundwater from the inert Waste Recovery Facility.

Attachments - Section B

General

<u>Sub-Section</u>	<u>Contents</u>
B.1	Applicant Details
B.1. (a).	A Copy of the Certificate of Incorporation
B.1. (b).	Company's Registration Number
B.1. (c).	List of Company Directors.
B.2	Location of Activity
B.3	Planning Authority
B.3.1	Planning Permission
B.3.2	Waste Permit Reg. No. WMP 30/2001B
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B.6	Notices and Advertisements
B.6.1	Copy of the Site Notice
B.6.2	Copy of Newspaper Notice
B.6.3	Copy of Written Notification to Planning Authority of Application to the Environmental Protection Agency for a Waste Licence
B.7	Type of Waste Activity
B.7.1	Type of Waste Activity
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B.8	Sevoso II Regulation
FIGURES	<i>(All Figures are contained in Attachment N)</i>
B.1.1	Ownership (Leasehold) Plan <i>(Shows the Leasehold of the land (coloured green))</i>
B.2.1	Site Plan <i>(Boundary of Waste Licence Application area in red)</i>
B.2.2	Location Map <i>(Details within 500m of site boundary)</i>
B.2.3	Services Plan <i>(Details within 250m of site boundary)</i>
B.2.4	Site Restoration Plan
B.2.5	Cross Sections
B.6.1	Site Notice Location

Attachment B.1 - Applicant Details

B.1 Applicant Details

The applicant, Mr. Tom Gavin of Sand & Gravel Merchants Ltd is the leaseholder of the application area lands.

Figure B.1.1 shows the leasehold area of the lands (colored green).

B.1. (a). A Copy of the Certificate of Incorporation

A copy of the Certificate of Incorporation is attached to this section

B.1. (b). Company's Registration Number

The Company Registration Number is 146020

B.1. (c). List of Company Directors.

The Company Directors are Tom Gavin and Ann Gavin

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B.1. (a). A Copy of the Certificate of Incorporation

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No. 146020

CERTIFICATE OF INCORPORATION

I HEREBY CERTIFY that Sand and Gravel Merchants Limited
is this day incorporated under the Companies Acts, 1963 to 1986,
and that the Company is Limited.

GIVEN under my hand at Dublin, this Friday, the 2nd day of June
One Thousand Nine Hundred and Eighty- Nine.

Fees and Deed Stamps: £141.00

Stamp Duty on Capital: £1

Frank Dohany
for Registrar of Companies

Attachment B.2 - Location of Activity

The site is located in Thornberry Townland, Kill, County Kildare. Grid Reference 295986E 221275N

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Attachment B.3 Planning Authority

The lands have a history of sand and gravel working. Planning Permission P.A. Reg. Ref. No. 771/85, PL 9/5/70970 was granted on 05/09/1985 for development comprising the restoration of derelict land to agricultural use by managed land fill scheme using dry non-industrial toxic waste (Refer to Attachment B.3.1). It should be noted that the only material imported to site has comprised inert soil and stones, and recovery of construction and demolition waste (concrete, bricks, tiles and ceramics).

The lands have been progressively restored subject to successive WMP's dating back to 2001. The current waste management permit (Waste Permit Reg. No. WMP 30/2001B) was granted by Kildare County Council for a 36 month period on 16th May 2007 (Refer to attachment B.3.2). In consideration of this application the file including the above planning permission was referred to the Planning Section of Kildare County Council. The Planning Section stated that they had no objection to the waste permit application subject to compliance with the conditions of planning (Refer to copies of correspondence dated 30/03/2007 and 08/06/07 attached (Attachment B.3.1)).

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ATTACHMENT B.3.1 – Planning Permission

Planning Permission P.A. Reg. Ref. No. 771/85, PL 9/5/70970

Copies of correspondence relating to planning permission dated 30/03/2007 and 08/06/07

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AN BORD PLEANALA

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1983

County Kildare

Planning Register Reference Number: 771/85

APPEAL by Action Waste Disposal Limited, care of Kieran O'Malley, O'Malley Bergen, 33, Fitzwilliam Place, Dublin, against the decision made on the 13th day of February, 1986, by the Council of the County of Kildare, to refuse permission for development comprising the restoration of approximately four hectares of derelict land (disused sand and gravel pit) to agricultural use by managed land fill scheme using dry non-industrial toxic waste in accordance with plans and particulars lodged with the said Council:

DECISION: Pursuant to the Local Government (Planning and Development) Acts, 1963 to 1983, it is hereby decided, for the reasons set out in the First Schedule hereto, to grant permission for the first phase of the development taking in the lands at the rear or eastern end of the site (area 35,000m² approximately) and outline permission is granted for the second phase of the development comprising the central part of site (area 42,000m² approximately) subject to the conditions specified in the Second Schedule hereto, the reasons for the imposition of the said conditions being as set out in the said Second Schedule and the said permission and outline permission is hereby granted subject to the said conditions.

FIRST SCHEDULE

It is considered that the site, in its present state, could not be regarded as contributing to the visual or recreational amenity of the area. The Board considers that the site could be developed and managed as a waste disposal facility in accordance with the plans and particulars lodged without causing serious environmental damage, provided:

- * the site is developed and managed strictly along the lines proposed in those plans and particulars,
- * the conditions set out in the Second Schedule are fully and properly complied with,
- * the operation and management of the site are closely supervised by the planning authority, as envisaged.

SECOND SCHEDULE

1. Waste disposal operations on the site shall cease on the expiration of a period of four years from the date land fill operations are commenced in phase 1, unless approval has been granted by the planning authority or by An Bord Pleanála on appeal in respect of phase 2 of the undertaking.

Reason: It is estimated that in the normal course the first phase would be completed within a maximum period of four years, including surface restoration work.

2.
SECOND SCHEDULE (CONTD.)

2. Prior to the use of the site for waste disposal operations, details (including cross-sections) of the final restoration levels shall be submitted by the developer to Kildare County Council for its agreement, or, in the absence of such agreement, shall be as determined by An Bord Pleanála.

TJTB

Reason: To provide for the orderly deposition of wastes on the site in the interests of amenity and to reduce nuisance to a minimum.

3. The site access arrangements shall conform to those shown on the revised drawing submitted to Kildare County Council in response to a request for additional information, and received by Kildare County Council on 23rd December, 1985.

Reason: To provide for the orderly deposition of wastes on the site in the interests of amenity and to reduce nuisance to a minimum.

4. The developers shall keep records of all wastes deposited on the site. Such records shall contain such details as may be required by Kildare County Council and they shall be made available to the planning authority at such intervals as the authority may require.

Reason: To facilitate the planning authority in controlling waste disposal operations on the site.

5. Loose waste on the site shall be gathered and disposed of at least once a week so as to keep the site tidy.

Reason: To ensure that all waste materials are contained within the operation areas in the interests of the visual amenities of the area.

6. No waste material shall be deliberately burnt on the site by the developers or their agents. A fire at the site shall be regarded as an emergency and immediate action taken to extinguish it. Arrangements shall be made on the site as may be required by the planning authority for dealing with any fire outbreak.

Reason: To provide for the orderly deposition of wastes on the site in the interests of amenity and to reduce nuisance to a minimum.

7. If required by Kildare County Council, no deposit of waste shall take place on the site until moveable screens have been placed at intervals near operation areas (with due regard to wind direction) so as to ensure that paper and other waste materials are contained within operational areas. Material arrested by such screens shall be removed and disposed of as necessary to maintain the efficiency of the screens and the tidiness of the site.

Reason: To ensure that all waste materials are contained within the operation area in the interest of the visual amenity of the area.

Contd./....

SECOND SCHEDULE (CONTD.)

8. Measures shall be taken to the satisfaction of the planning authority to control infestation by rodents and birds.

Reasons: To provide for the orderly deposition of wastes on the site in the interest of amenity and to reduce nuisance to a minimum.

9. On attaining final level the waste shall be covered with a minimum of 1 metre of suitably compacted impermeable capping material. The fall shall be such as to allow surface water run-off to adjoining watercourses. An adequate seedbed shall be prepared by addition of suitable topsoil or other means to ensure plant propagation. These measures should be carried out in such a manner as to ensure that the impermeability of the final capping material is not interfered with. *After care*

Reasons: In the interests of amenity and public safety.

10. A suitable monitoring programme shall be implemented as required by the planning authority in respect of both the effluent and the receiving waters to facilitate monitoring by the planning authority. The developers shall, as stated in their undertaking at the oral hearing held on 23rd July, 1986, pay to Kildare County Council a financial contribution of £5,000 per annum towards the Council's expenses in such monitoring, such annual payment to continue for so long as the site is used for the deposit of waste and for one year thereafter. ?

Reasons: In the interests of amenity and public safety.

11. In the event of the pollution of any waters in the vicinity of the site arising from the operations on the site, the developers shall immediately undertake at their expense such remedial or abatement measures as may be required by the planning authority and shall, if so required by the authority, cease further waste disposal operations on the site until such measures have been undertaken to the satisfaction of the planning authority.

Reasons: To prevent injury to amenity, public health or other adverse environmental effects resulting from the proposed development and provide means for the controlling and monitoring of effluents and discharges caused by the operations on the site.

12. The development shall be carried out in such a manner as to avoid creation of a nuisance from noise to persons occupying lands or buildings in the vicinity.

Reasons: In the interest of amenity.

Contd./.....

SECOND SCHEDULE (CONTD.)

13. Heavy road vehicles delivering waste to the site from Dublin City/County shall be routed via Kilwarden Cross and vehicles returning from the site in the same direction shall be routed via Kilwarden Cross and the Naas By-Pass intersection on the N7 National Primary Road.

Reason: In the interests of public safety and to avoid a traffic hazard.

14. All vehicles conveying waste materials to the site shall either be totally sealed or covered with a net or tarpaulin, so that waste materials shall not spill or be blown from these vehicles. Waste shall not be accepted at the site from vehicles which are not so sealed or covered.

Reason: To prevent injury to amenities, public health or other adverse environmental effects resulting from the proposed development and to provide means for the controlling and monitoring of effluents, emissions, and discharges caused by the operations on the site.

15. The site shall be used only for the disposal of dry non-toxic industrial waste as described at the oral hearing held on 23rd July, 1986.

Reason: The disposal of other wastes on the site would be unacceptable on environmental grounds, having particular regard to the generation of leachate, etc.

16. Suitable security boundary fencing shall be erected to enclose the entire site area.

Reason: To provide for the orderly deposition of wastes on the site in the interests of amenity and to reduce nuisance to a minimum.

17. The developers shall lodge with Kildare County Council a cash deposit, a bond of an insurance company or other security to ensure that the waste disposal operations, and restoration/landscaping works, are carried out in accordance with the plans and particulars lodged with the terms and conditions of this order and with the terms of the site management plans, coupled with an agreement empowering the said Council to apply such security or part thereof to cover any costs that may be incurred by the Council in the event of default or of failure by the developers to carry out and complete the development as aforesaid. For the purposes of this condition the duration of the security shall extend to a date five years after termination of refuse disposal. The form and amount of the security shall be as agreed between the said Council and the developers or, failing such agreement, shall be as determined by An Bord Pleanála.

Reason: To provide for the orderly deposition of waste on the site in the interests of amenity and to reduce nuisance to a minimum.

Contd./.....

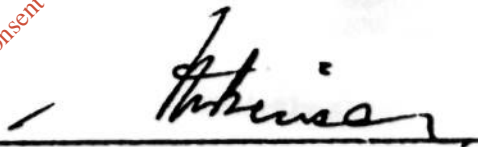
5.

SECOND SCHEDULE (CONT'D.)

18. The developers shall pay to Kildare County Council a financial contribution towards the said Council's expenditure on the improvement of the public road network in the area. The time and method of payment shall be agreed between the developers and the said Council before the development is commenced or, failing agreement, shall be as determined by An Bord Pleanála.

Reason: It is considered reasonable that the developer should make a contribution towards the cost of road improvement works which would serve the development.

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Member of An Bord Pleanála duly
authorised to authenticate the
seal of the Board.

Dated this 5th day of September 1986.

MEMO

ENVIRONMENT SECTION

To: Sarah Lynch

From: Ciara Corrigan, AES

Date: 30/3/2007

Re: Waste Permit Application 30/2001B



Please refer a copy of Waste Permit Application 30/2001B including all maps and a copy of the An Bord Pleanála Decision (PL9/5/70970) to the Planning Department.

Note :- The planning section were referred this Waste Permit Application however they did not received the planning conditions. Therefore I recommend that the whole application including the Planning Decision is referred to the Planning Section

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Ciara Corrigan
30/3/2007

Note :
Refer file and details to the Planning Section.
Ciara

MEMO

To: Planning Section

From: Environment Section

Re: Tom Gavin's Waste Permit Application for restoration of the pit at Upper Punchestown, Rathmore, Naas, Co. Kildare.

Please find attached a copy of the Planning Permission for the above site and a copy of the Waste Permit application.

No objection subject
to conditions of P.P being
complied

John [Signature]
08/06/02

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ATTACHMENT B.3.2

Waste Permit Reg. No. WMP 30/2001B

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18/06/2007

Environment Section
ME/CC

Mr. Tom Gavin
Upper Punchestown
Rathmore
Naas
Co. Kildare

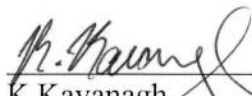
Re: Waste Permit Register Number 30/2001B

Dear Mr. Gavin

With reference to the above, I wish to advise that the copy of permit sent to you on 16th May 2007 was incorrect. I now enclose corrected version of your waste permit.

If you have any queries please contact Martina Eustace/Margaret Trant, Environment Section on 045 980588.

Yours Sincerely,


K Kavanagh
Senior Executive Officer

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WASTE PERMIT

ISSUED UNDER

THE WASTE MANAGEMENT ACTS 1996 to 2005

And

THE WASTE MANAGEMENT (PERMIT) REGULATIONS 1998

Waste Permit Register Number: WP 30/2001B

Applicant:

**Tom Gavin,
Upper Punchestown,
Rathmore,
Co. Kildare**

Location of Facility:

**Thornberry,
Kill,
Co. Kildare**

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ACTIVITIES PERMITTED

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005 and the Waste Management (Permit) Regulations 1998, Kildare County Council grants this waste permit under article 5(1) of the said regulations to Tom Gavin, Upper Punchestown, Rathmore, Naas, Co. Kildare for lands at Thornberry, Kill, Co Kildare, the waste activity listed below, subject to nine conditions, with the reasons therefor set out in the permit.

Permitted Waste Activity, in accordance with Part 1 of the First Schedule of the Waste Management (Permit) Regulations, 1998

Activity 5 The recovery of waste (other than hazardous waste) at a facility (other than a facility for the composting of waste where the waste held at the facility exceeds 1000 cubic metres at any time).

Permitted Waste Activity, in accordance with the Fourth Schedule of the Waste Management Acts 1996-2005

Class 4 Recycling and reclamation of other inorganic materials

Class 10 The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.

Class 13 Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

NOTE

THE GRANTING OF THIS PERMIT, AND ANY CONDITION IMPOSED BY IT, DOES NOT EXEMPT THE HOLDER OF THE PERMIT FROM COMPLYING WITH THE STATUTORY OBLIGATIONS OF ANY RELEVANT LEGISLATION, INCLUDING WATER POLLUTION, AIR POLLUTION, WASTE, LITTER AND PLANNING LEGISLATION.

Condition 1: SCOPE:

- 1.1 This Waste Permit is issued under the Waste Management (Permit) Regulations 1998 to Tom Gavin of Upper Punchestown, Rathmore, Naas, Co. Kildare for lands at Thornberry, Kill, Co. Kildare. This permit is strictly non-transferable.
- 1.2 This permit is granted for a period not exceeding 36 months from the date of issue. This permit may be reviewed at any time by Kildare County Council.
- 1.3 For the purpose of these conditions, the site is defined as the area outlined in red on the Land Registry Map, Folio 1858, O.S. 20/5, scale 1:2500, received on the 20/4/2007 except where altered or amended by conditions of this waste permit.
- 1.4 The **area shaded purple** on the Topographical Survey Map, scale 1:500, Drawing No. KE/11/04/2007 received on 20/4/2007 shall be raised with soil and subsoil. The area shaded purple shall not be raised greater than 2 metres over its existing level. **The area shaded grey** on the Topographical Survey Map, scale 1:500, Drawing No. KE/11/04/2007 received on 20/4/2007 shall be used for the storage and crushing of concrete, brick, tiles and ceramics. The **area shaded brown** on the Topographical Survey Map, scale 1:500, Drawing No. KE/11/04/2007, received on the 20/4/2007 shall only be used for the storage of topsoil.
- 1.5 Should environmental pollution occur at the site, this permit may be reviewed by Kildare County Council.
- 1.6 The permit holder shall be responsible for ensuring that the waste activities are controlled, operated and maintained in strict accordance with the terms of the application as modified and/or controlled by the conditions attached to the permit. The permit holder shall establish procedures to ensure that corrective action is taken should any condition of this permit not be complied with. Kildare County Council shall be notified of any such breach by telephone/fax and full details shall be forwarded in writing on the next working day.
- 1.7 Where Kildare County Council considers that a non-compliance with the conditions of this permit has occurred, it may serve a notice on the permit holder specifying:-
 - (a) that only those wastes as specified, if any, in the notice are to be accepted at the facility after the date specified in the notice; and
 - (b) that the permit holder shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within any time-scale contained in the notice.

When the notice has been complied with, the permit holder shall provide written confirmation to the local authority that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written confirmation is received from the Council that the notice is withdrawn.

- 1.8 Should the permit holder wish to “dispose” of waste materials at the site then a waste licence from the Environment Protection Agency (EPA) is required and the permit shall be revoked. **This permit is solely for the recovery of soil based materials to restore the lands.** This permit does not constitute a disposal activity.

REASON: To clarify the scope of this permit.

Condition 2: MANAGEMENT OF THE ACTIVITY

- 2.1 The permit holder shall acquaint all staff, employees, lessees and agents, including replacement personnel, of the provisions and conditions of this permit.
- 2.2 A copy of the permit must be kept on site at all times.
- 2.3 The site shall be adequately managed and supervised at all times during filling operations. It shall be maintained to the satisfaction of the Council and adequate precautions shall be taken to prevent unauthorised access to the site.
- 2.4 Waste soils shall only be accepted at the site between the hours of 08.00 and 18.00, Monday to Friday inclusive (excluding Bank and National Holidays), and between the hours of 08.00 and 13.00 on Saturday, unless otherwise agreed by Kildare County Council.

REASON: To make provision for the proper management of the activity

Condition 3: NOTIFICATION AND RECORD KEEPING

- 3.1 All communication with Kildare County Council shall be addressed to Senior Executive Officer, Environment Section, Aras Chill Dara, Devoy Park, Naas, Co Kildare.
Telephone (045) 980588, Fax: (045) 980587
- 3.2 The permit holder shall maintain a written record for each load of waste arriving at the site. The operator shall record and make available on site the following details:-
- Origin of the load;
 - Description of the material in each load;
 - The quantity of the materials, estimated in tonnes and recorded in loads;
 - Where loads are removed or rejected, details of the date and time of occurrence, the type of material, and the place to which they were removed.
 - The date and time of all waste deliveries to the site
 - The names of the carriers and the vehicle registration numbers.

3.3 The permit holder shall maintain a written record of all complaints of an environmental nature related to the site. Each such record shall give details of the following:-

- a) Date and time of complaint;
- b) Name of complainant;
- c) Details of the nature of the complaint;
- d) Action taken on foot of the complaint;
- e) Response to each complainant.

3.4 The permit holder shall submit a report to Kildare County Council, which shall include the information compiled in 3.2 and 3.3 above. In addition, the permit holder shall include in the report a written summary of compliance with all of the conditions attached to the permit. This report shall be submitted for the preceding calendar year by no later than 28 February of each year and within one month of waste activities ceasing on the site. **The report shall be called The Annual Report (AR).**

3.5 The permit holder shall immediately notify Kildare County Council by telephone of any incident which occurs as a result of the activity on the site, and which:-

- Has the potential for environmental contamination of surface water or ground water, or
- Poses an environmental threat to air or land, or
- Requires an emergency response by the Council.

Full details shall be forwarded in writing on the next working day.

3.6 The permit holder shall make all records maintained on site available to Kildare County Council staff at all reasonable times, and shall provide any relevant information when so requested by an authorised person of Kildare County Council.

3.7 Within one month of waste activities ceasing on the site, the permit holder shall submit a report to Kildare County Council which shall include the information contained in the written records described above, and details of any impositions or convictions imposed under the Waste Management Act, 1996. In addition, the permit holder shall include in the report a written summary of compliance with all of the conditions attached to the permit.

<p>REASON: To provide for the notification of incidents, to update information on the activity and to provide for the keeping of proper records</p>

Condition 4: MATERIALS ACCEPTANCE AND HANDLING:

- 4.1 Prior to the commencement of waste activities the permit holder shall erect a post and wire fence along the boundary of the waste permitted site.
- 4.2 The permit holder shall erect markers indicating the finished levels at sufficient locations around the site to ensure that design finished levels are not exceeded during filling operations.
- 4.3 **Only soil and stones other than those mentioned in 17 05 03, which conform to the European Waste Catalogue (2002 edition) code reference 17 05 04, may be accepted to restore the area shaded purple on the Topographical Survey Map, scale 1:500, drawing number KE/11/04/2007, received 20/4/2007.**
- 4.4 **The mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06, which conform to the European Waste Catalogue (2002 edition) code reference 17 01 07 may be stored in the area shaded grey as shown on the Topographical Survey Map, scale 1:500, drawing number KE/11/04/2007, received on 20/4/2007 prior to crushing for secondary aggregate.**
- 4.5 **Topsoil may be stored in the area shaded brown on the Topographical Survey Map, scale 1:500 drawing number KE/11/04/2007, received 20/4/2007.**
- 4.6 **No waste types other than those outlined in condition 4.3, 4.4 and 4.5 shall be accepted or deposited at this facility. The permit holder shall ensure that adequate steps are taken to prevent acceptance of any other waste types. All material shall be deposited inside the site boundary.**
- 4.7 All waste arriving at the facility shall be subject to a visual inspection by the permit holder, or his staff, employees, lessees or agents. Materials other than those permitted shall be removed immediately from the site. Such waste shall be disposed of (or recovered) at an alternative facility with an appropriate waste permit or waste licence. Following delivery of such unauthorised waste to the site, Kildare County Council shall be immediately notified by telephone, fax or e-mail and full details shall be forwarded in writing on the next working day.
- 4.8 The permit holder shall remove immediately any waste placed on or in the vicinity of the site other than in accordance with the requirements of the permit. If such waste is discovered it shall be taken to a facility with a waste licence or waste permit authorising acceptance of such waste.
- 4.9 The sources of all wastes shall be notified to, and approved by Kildare County Council prior to their acceptance at the site. A soil analysis shall be carried out on a representative sample of material from each source brownfield excavation, and Kildare County Council may require that further analysis of the material from certain sources be carried out.
- 4.10 The site shall be adequately secured so as to avoid "flytipping". Any such "flytipped"

loads of waste shall be removed immediately by the owner of the site to an appropriate facility.

- 4.11 The entrance to the site shall be constructed prior to commencement of the importation of waste onto the site.
- 4.12 The permit holder shall not allow any over-spill of waste outside the site perimeter or into surface water drains or streams or any other water courses. The drains or streams or other watercourses around the site shall be left open and kept clear of any debris in order to maintain adequate surface water drainage.
- 4.13 No skips, open containers, compactors or dumptrucks shall deposit waste on the site. A maximum of 40 trucks a day shall enter and deposit material on the site unless otherwise agreed in advance with Kildare County Council and records of these shall be kept in strict accordance with condition 3.2. Kildare County Council may at any time instruct the permit holder to reduce the number of trucks depositing waste on the site in the event that proper road haulage procedures are not put in place.
- 4.14 All hauliers importing waste to the facility shall hold a valid waste collection permit in accordance with the Waste Management (Collection Permit) Regulations 2001 from the relevant authority where the waste was collected.

REASON: To provide for the acceptance and management of wastes authorised under this permit

Condition 5: NUISANCES, EMISSIONS AND ENVIRONMENTAL IMPACTS:

- 5.1 The permit holder shall take adequate precautions to prevent undue noise, fumes, dust, grit, untidiness, and other nuisances during the course of the works which would result in a significant impairment of or a significant interference with amenities or the environment beyond the site boundary. If unacceptable levels occur, the permit holder shall abide by the Council's abatement requirements, which may include immediate cessation of operations
- 5.2 The road network in the vicinity of the site shall be kept free of any debris caused by vehicles entering or leaving the facility. Any such debris on the road network shall be removed by a suction sweeper without delay. Wheel washing shall be provided to prevent materials being carried out onto the road. The permit holder shall take adequate steps to ensure that no material of any sort can fall or be blown from vehicles delivering waste to the site.
- 5.3 Vehicles shall not be allowed to queue or park on the public road. Provision shall be

made within the confines of the site for turning of vehicles. Car parking space shall be provided for all staff and visitors to the site, on a durable surface within the curtilage of the site. Adequate turning area is to be provided within the site, which is capable of accommodating the tipper trucks using the site.

- 5.4 The permit holder shall ensure that waste activities on the site shall be carried out in such a manner so as not to have an adverse effect on the drainage of adjacent lands, on watercourses, on field drains or any other drainage system including the public roadway.
- 5.5 All loose litter accumulated within the site and its environs shall be removed and appropriately disposed of at an appropriate facility on a daily basis.
- 5.6 In dry weather appropriate measures shall be taken to reduce / eliminate airborne dust nuisance.
- 5.7 The permit holder shall ensure that the activities at the site shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the site boundary.

REASON:	To provide for the control of nuisances and emissions from the facility, and to provide for the protection of the environment.
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Condition 6: ENVIRONMENTAL MONITORING
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- 6.1 Authorised staff of Kildare County Council shall have access to the site at all reasonable times, for the purpose of their functions under the Waste Management Acts 1996 to 2005, including such inspections, monitoring and investigations as are deemed necessary by the Council.
- 6.2 If so requested by Kildare County Council, the permit holder shall at his/her own expense make available a suitable excavator for the purposes of excavating trial holes in the waste material deposited on site, and shall arrange for the excavator to carry out whatever works are required by the Council on the site.
- 6.3 If so requested by Kildare County Council, the permit holder shall, at his/her own expense, carry out such further investigations and monitoring of the facility as required by the Council. The scope, detail, and programme, including report structure and reporting schedule, for any such investigations and monitoring shall be in accordance with any written instructions issued by the Council.
- 6.4 In the event that any monitoring or observations indicate a pollution incident has occurred resulting from waste activities on site, acceptance of waste onto the site shall cease and remedial measures shall be carried out immediately as directed by Kildare County Council.

- 6.5 The permit holder shall keep records of all monitoring carried out and shall retain such records for a minimum period of three years. These records shall be available for inspection at the site office during normal working hours by Authorised Officers of Kildare County Council and any other person authorised under Section 14 of the Waste Management Acts 1996 to 2005

REASON: To ensure compliance with the requirements of the conditions of this licence

Condition 7: RESTORATION AND AFTERCARE

- 7.1 As soon as is practicable following completion of the waste activities, the site shall be seeded with grass.
- 7.2 Prior to seeding, topsoil shall be spread evenly over the site to a minimum depth, after firming, of 200 – 250 mm. The topsoil shall be good quality, and shall comply with BS 3882 : 1991. The topsoil shall not be spread in wet conditions. The topsoil shall be adequately prepared for seeding by raking or harrowing and by rolling. Seed shall be spread at a minimum rate of 30 grams per square metre.
- 7.3 The applicant remains responsible for the proper nuisance free operation of all drainage systems on site, and for ensuring that no pollution of groundwaters shall occur at any time as a result of the proposed filling / waste recovery operation.

REASON: To provide for the restoration and aftercare of the facility

Condition 8: CONTINGENCY ARRANGEMENTS:

- 8.1 In the event that any monitoring, sampling or observations indicate that contamination has, or may have, taken place, the operator shall immediately:
- identify the date, time and place of contamination,
 - carry out an immediate investigation to identify the nature, source and cause of the incident and any emission,
 - isolate the source of the emission,
 - evaluate the environmental pollution, if any,
 - identify and execute measures to minimise the emissions and effects thereof,
 - identify and put in place measures to avoid reoccurrence,
 - identify and put in place any other appropriate remedial action, and maintain a written record of the above.

REASON: To provide for immediate action in the event of contamination taking place

Condition 9: FINANCIAL PROVISIONS:

- 9.1 The permit holder shall pay an annual contribution of EUR1500 to Kildare County Council towards the cost of inspecting, monitoring or otherwise performing any functions in relation to the permit activity. The Permit Holder shall pay to Kildare County Council this amount within 30 days of receipt of this permit and thereafter on an annual basis while the waste permit is active. In the event that the frequency or extent of monitoring or other functions carried out by Kildare County Council needs to be increased for whatever reason the permit holder shall contribute such sums as are determined by the Local Authority to defray costs.

REASON: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.

Signed: 

K Kavanagh, Senior Executive Officer,
Kildare County Council.

Date: 16/5/2007

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ATTACHMENT B.4

Sanitary Authority

The facility does not plan to discharge effluent or other matter to any sewer system in the area. It is proposed to provide the site with a portable chemical toilet which will be serviced under contract with a reputable supplier.

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ATTACHMENT B.6

Notices and Advertisements

- B.6.1 Copy of the site notice (Location of Site Notice is shown on Figure B.6.1)
- B.6.2 Copy of Newspaper Notice
- B.6.3 Copy of Written Notification to Planning Authority of Application to the Environmental Protection Agency for a Waste Licence

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ATTACHMENT B.6.1

Site Notice

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SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

Sand and Gravel Merchants Ltd, Upper Punchestown, Rathmore, Naas, County Kildare intend to apply to the Environmental Protection Agency for a waste licence for the continued operation of its existing waste recovery facility on lands at Thornberry Townland, Kill, Co. Kildare (National Grid Reference 295986E 221275N).

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It is proposed that up to 220,000 cubic metres per annum of inert materials will be accepted to site.

The principal activity is Class 4 (recycling or reclamation of inorganic materials) of the Fourth Schedule of the Waste Management Act, 1996 to 2008. Other activities include Class 13 of the Fourth Schedule (temporary storage pending recycling or reclamation).

A copy of the application for a waste licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application, will, as soon as practicable after receipt by the Agency, be available for inspection or purchase at the headquarters of the Agency.

ATTACHMENT B.6.2

Newspaper Notice

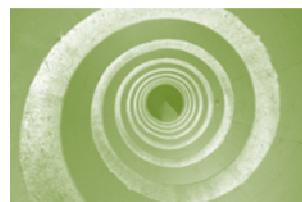
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ATTACHMENT B.6.3

Copy of Written Notification to Planning Authority of Application to the
Environmental Protection Agency for a Waste Licence

*For inspection purposes only.
Consent of copyright owner required for any other use.*

Planning Department
Kildare County Council
Aras Chill Dara
Devoy park
Naas
Co. Kildare



JSPE

Date: 11th February, 2009
Our Ref: JSPE 175_L01

J Sheils Planning & Environmental Ltd

31 Athlumney Castle, Navan, Co Meath

Phone/Fax: Ireland +353 46 9073997

Mobile: John Sheils +353 87 2730087

Email: johnsheils@jspe.ie

Re: Waste Licence Application by Sand and Gravel Merchants Ltd for the continued operation of its existing Waste Recovery Facility on lands at Thornberry Townland, Kill, Co. Kildare (National Grid Reference 295986E 221275N).

To whom it may concern:

In accordance with Article 9 of the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004), we wish to inform Kildare County Council (Planning Authority) that J Sheils Planning & Environmental Ltd will be submitting a Waste License Application to the Environmental Protection Agency, on behalf of Sand and Gravel Merchants Ltd of Thornberry Townland, Kill, Co. Kildare. i.e.

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE LICENCE

Sand and Gravel Merchants Ltd, Upper Punchestown, Bathmore, Naas, County Kildare intend to apply to the Environmental Protection Agency for a waste licence for the continued operation of its existing waste recovery facility on lands at Thornberry Townland, Kill, Co. Kildare (National Grid Reference 295986E 221275N).

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone, and recovery of inert construction and demolition waste. It is proposed that up to 220,000 cubic metres per annum of inert materials will be accepted to site.

The principal activity is Class 4 (recycling or reclamation of inorganic materials) of the Fourth Schedule of the Waste Management Act, 1996 to 2008. Other activities include Class 13 of the Fourth Schedule (temporary storage pending recycling or reclamation).

A copy of the application for a waste licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application, will, as soon as practicable after receipt by the Agency, be available for inspection or purchase at the headquarters of the Agency.

Yours Sincerely,

For J Sheils Planning & Environmental Ltd,



John Sheils ASCS MRICS

ATTACHMENT B.7 – Type of Waste Activity

B.7.1 Type of Waste Activity

The following sections detail the classes of activity for the site, which are in accordance with the Fourth Schedule to the Waste Management Acts 1996 to 2008, to which the application relates and includes a brief technical description of each of the activities specified.

B.7.2 Principal Activity

Class 4. Recycling or reclamation of other inorganic materials

Only inert soils, stone and clean construction and demolition waste will be accepted at the site. Further details with respect to the type of materials including European Waste Catalogue code references are provided in table Table H.1(ii). No other waste types shall be accepted or recovered at this facility.

B.7.3 Other Waste Recovery Activities - Fourth Schedule of WMA

Class 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Construction and demolition waste may be stored in stockpiles prior to processing, recovery and re-use for engineering purposes on the site or offsite (See Fourth Schedule - Waste Recovery Activity Class 4). Similarly topsoil/subsoil may be stored in temporary storage mounds awaiting placement as part of the restoration scheme.

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in covered skips in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

ATTACHMENT B.8

Sevoso II Regulation

The European Communities (Control of Major Accident Hazards involving Dangerous substances) Regulations, 2000 (S.I. No. 476 of 2000) do not apply as the establishment only accepts inert material for recovery.

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Attachments C

Management of the Facility

<u>Sub-Section</u>	<u>Contents</u>
C.1.	Technical Competence and Site Management
C.1.(a)	Organisation & Management Structure
C.2	Environmental Management System
C.3	Hours of Operations
C.3. (a)	Proposed hours of operation.
C.3. (b)	Proposed hours of waste acceptance/handling.
C.3. (c)	Proposed hours of any construction and development works at the facility and timeframes (required for landfill facilities).
C.3. (d)	Any other relevant hours of operation expected.
C.4	Conditioning Plan

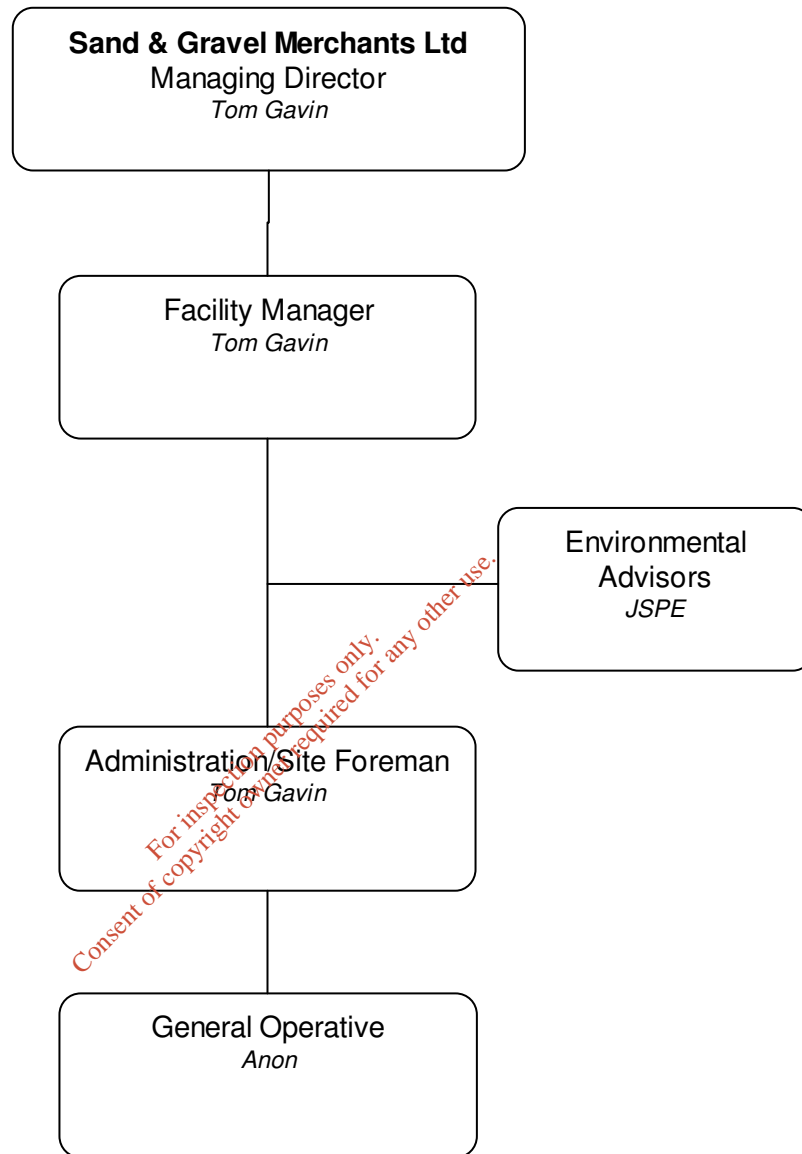
C.1 Site Management Details

Sand & Gravel Merchants Ltd has an established small family run business based in Thornberry, Kill, Co Kildare. The company employs 3 people directly on site. The organisational structure is shown by the following organogram. Mr Tom Gavin – Facility Manager will be responsible for the overall management of the facility including implementation of the proposed Environmental Management System

Name	Position	Duties and Responsibilities	Experience /Qualifications
Tom Gavin	Facility Manager	Overall management of the site in accordance with waste licence conditions	24 Years experience in the extraction industry including 8 years in operating & Managing the existing Waste Recovery Management Facility.
Mark Gavin	Administration/Site Foreman	Supervision of operations on site including inspection, acceptance and recording of all waste delivered to site for recovery. Submission of relevant details to Regulatory Authority in accordance with waste licence conditions.	6 years experience at existing Waste Recovery Facility.
John Sheils	Environmental Advisor	Managing environmental monitoring programme	17 years planning & environmental experience. B.Eng. (Hons) Mining Engineering, Chartered Minerals Surveyor, Environmental Auditors Registration Association (EARA) Approved Foundation Course in Environmental Management & Auditing.
Anon	Operative	Duties include general housekeeping including inspection and removal	Safe Pass or equivalent training for operation of plant being operated

C.1.(a) Organisation & Management Structure

The organisational and Management structure is shown by the following organogram.



C.2 Environmental Management System

Currently no Environmental Management System (EMS) has been developed for the existing facility. Sand & Gravel Merchants Ltd will implement an EMS for the facility subject to granting of the Waste Licence. The proposed EMS will be structured as follows:

- 1.0 Introduction
- 2.0 Environmental Policy
- 3.0 Organisation and Management Responsibilities
- 4.0 Environmental Legislation and Control
- 5.0 Environmental Aspects
- 6.0 Objectives & Targets
- 7.0 Environmental Management Plan
- 8.0 Training, Awareness and Competence
- 9.0 Communication
- 10.0 Document Control
- 11.0 Operational Control
- 12.0 Emergency Preparedness & Response
- 13.0 Complaints/Non-Conformance and Corrective and Preventive Action
- 14.0 Annual Environmental Audits
- 15.0 Environmental Management Review

C.3 Hours of Operations

C.3. (a) Proposed hours of operation.

It is proposed that working hours at the application site will be that waste is accepted at the site between the hours of 08:00 hours to 18:00 hours on working days Monday to Friday inclusive and 08:00 hours to 13:00 hours on Saturday. These hours of operation are as stipulated in Waste Management Permit No. 30/2001B. No operations will be carried out on Sundays or public holidays.

C.3. (b) Proposed hours of waste acceptance/handling.

As Above.

C.3. (c) Proposed hours of any construction and development works at the facility and timeframes (required for landfill facilities).

Not Applicable as this is not a landfill facility.

C.3. (d) Any other relevant hours of operation expected.

None, other than emergency work that maybe required outside normal working hours.

C.4 Conditioning Plan

A Condition Plan is not required as the proposed activity is a land restoration project using inert materials.

Attachments D



Infrastructure & Operation







<u>Sub-Section</u>	<u>Contents</u>
D.1.	Infrastructure
D.2	Facility Operations
D.2.(a).	Unit operations
D.2.(b).	Flow diagram of the whole process, along with a brief description detailing its management and maintenance plans
D.2.(c).	Aspects of the facility operation that can cause emissions to the environment during normal operation
D.2.(d).	Brief details of the activities carried on in laboratory facilities associated with the activity (if relevant).
D.2.(d).	For Incineration facilities (if applicable), provide information to fulfil Article 6 of the Incineration of Waste Directive
D.3	Liner System
D.4	Leachate Management
D.5	Landfill Gas Management
D.6	Capping System
FIGURES	<i>(All Figures are contained in Attachment N)</i>
D.1.1	Site Infrastructure Plan
D.1.2	Site Infrastructure Plan – Surface Water Management


D.1. Infrastructure


The following table contains details of the site infrastructure and appropriate documentation as necessary. The Information provided follows the sequence, and uses the headings, established in Table D.1 of the waste licence application form.

Appropriately scaled drawings (≤A3) have also been provided showing the location and relevant details with respect to site infrastructure (Refer to Drawing D.1.1 & D.1.2).

<p>D.1.a</p>	<p>Site security arrangements including gates and fencing</p> <p>The boundaries of the site are secure being established hedgerows and stock proof fencing. The site benefits from being bounded to the west by the local county road, to the south by Arthurstown Landfill Facility (EPA Registration No. W0004-03).</p> <p>The lands to the east and north are of pasture and a variety of agriculture type activity. The application site is leasehold and the neighbouring residence to the north is that of the Landowner. The site entrance gates will be locked outside of normal working hours and public warning notices posted at appropriate locations along the site boundary. The site is also monitored with CCTV at the entrance.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
<p>D.1.b</p>	<p>Designs for site roads</p> <p>Access to the site will be gained through the existing entrance onto the Kilwarden to Punchestown County Road. The site entrance has been adequately set-back and splayed. All materials will be transported to and from the application site using heavy goods vehicles (HGV's).</p> <p>The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to the public road.</p>

<p>D.1.c</p>	<p>Design of hardstanding areas</p> <p>There are no hard standing areas currently on site.</p> <p>The main site area is of a compacted insitu gravel surface with the effect that there will effectively be no surface run-off at the site and this allows the return of runoff to the natural drainage system as soon as possible.</p>
<p>D.1.d</p>	<p>Plant</p> <p>A Bulldozer, excavator, 2 loading shovels (Sand & Gravel Pit), water bowser and primary crusher and screening unit are all used intermittently on site (Refer to following photographs).</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;">       </div> <p>There is no weighbridge on site. Trucks entering the site are typically 4 axle 9 cu.m capacity rigid bodied tippers. Details with respect to truck loads and volume of inert materials received are recorded in a log book.</p>
<p>D.1.e</p>	<p>Wheel-wash</p> <p>The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to</p>

	the public road and a wheelwash is not considered necessary.
D.1.f	<p>Laboratory facilities</p> <p>Laboratory facilities on site will not be required as the services of an external accredited lab will be used when required.</p>
D.1.g	<p>Design and location of fuel storage areas</p>  <p style="text-align: center;"><i>Proposed Bundled Fuel Bowser (Example Photo)</i></p> <p>A mobile double skinned (integrated bunding) fuel bowser is proposed to be used to refuel mobile plant on site.</p> <p>Oil and Waste oil products are stored under cover. All oil barrels and lubricants will be stored on spill pallets/ spill trays.</p> <p>Spill kits will also maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.</p> <p>Waste oils are disposed of by a licensed waste contractor and removed off site.</p>
D.1.h	<p>Waste quarantine areas</p> <p>The site has a designated area for the quarantine of any inappropriate materials which may be found within loads accepted at the site. Bays have been provided within the designated quarantine area for the temporary storage of any inappropriate materials discovered (e.g. glass, plastic, timber, steel, etc). The materials are routinely removed by a licensed waste disposal contractor to an appropriate disposal facility.</p>
D.1.i	<p>Waste inspection areas</p> <p>All truck loads entering the site will be given a preliminary inspection on entering the site.</p> <p>Secondary inspection is carried out after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility.</p> <p>Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.</p>

<p>D.1.j</p>	<p>Traffic control</p> <p>Car parking including visitors parking will be provided at the site entrance Trucks entering the site will report to the site Facility Manager/Site Foreman where each load will inspected as to its suitability to be recovered on site.</p> <p>Traffic direction signs, warning signs, speed limit signs are established throughout the site.</p> <div style="text-align: center;">  <p><i>Examples of Existing Signage</i></p> </div>
<p>D.1.k</p>	<p>Sewerage and surface water drainage infrastructure</p> <p>It is proposed to provide a portable chemical toilet for the site. The operators will enter a regular maintenance contract with a reputable supplier to be serviced as required.</p> <p>As only inert materials are to be imported to site there will be no source of possible contamination of surface waters. The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations. There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.</p>
<p>D.1.l</p>	<p>All other services</p> <p>All plant and machinery on site is diesel powered. Potable water is brought to site daily.</p>
<p>D.1.m</p>	<p>Plant sheds, garages and equipment compound</p> <p>The operator has provided a steel storage container for the site, as a secure equipment storage area.</p> <p>Oil and Waste oil products are stored in the container. All oil barrels and lubricants will be stored on spill pallets/ spill trays.</p> <p>No major vehicle servicing/repairs are carried out on site.</p>
<p>D.1.n</p>	<p>Site accommodation</p> <p>The business is a small family business with administration handled from the operators residence and business address in Rathmore. As such the personnel on site do not have need for office and canteen facilities. The log book and any relevant documentation is kept in possession of either the facility manager and/or Site Foreman on site.</p>

<p>D.1.o</p>	<p>A fire control system, including water supply</p> <p>In the event of a fire, the employee on the scene shall raise the alarm with all staff in the immediate area and confirm that all staff are present and accounted for. Assist in containing the fire using the appropriate extinguisher – only if it is safe and they are confident to do so. All personnel will have also undergone appropriate training and will be aware of potential hazards on site.</p> <p>In the event where a fire cannot be controlled the appropriate emergency services will be contacted either by dialling “999 or 112” and informing the operator of which service is required. An emergency contact list shall be posted at the site entrance.</p> <p>The incident will also be reported immediately to the Site Foreman/ Facility Manager.</p> <p>If the fire is located adjacent to explosive or further flammable materials the area should be vacated immediately and personnel should retreat a safe distance. Emergency services should be made aware of any potential hazards on site when they arrive.</p>
<p>D.1.p</p>	<p>Civic amenity facilities</p> <p>Not Applicable to this site.</p>
<p>D.1.q</p>	<p>Any other waste recovery infrastructure</p> <p>Refer to previous sections and the attached Infrastructure Plan D 1.1.</p>
<p>D.1.r</p>	<p>Composting infrastructure</p> <p>Not Applicable to this site.</p>
<p>D.1.s</p>	<p>Construction and Demolition waste infrastructure</p> <p>Recovery and re-cycling activities at the application site involves tipping of previously stockpiled ‘unprocessed’ material into a mobile crushing & processing plant using a front-end loader. Material produced by the plant is then transported by front-end loader to ‘processed’ stockpiles. Recycled material is used for internal haul roads and/or dispatched offsite. Currently this material is being used at the neighbouring Arthurstown Landfill Facility,</p> <p>No sorting of materials other than separation of rebar from concrete will be undertaken on site as all material will be sorted and segregated at source before being brought to the application site. Rebar (reinforced steel) separated from concrete will be stored in the designated quarantine area awaiting removal off-site by a licensed scrap merchant.</p> <div data-bbox="619 1778 1161 2002" data-label="Image"> </div> <p style="text-align: center;"><i>Primary Crusher on site</i></p>

D.1.t	Incineration infrastructure (if applicable). Provide information to fulfil Article 4 (2) & (3) of the Incineration of Waste Directive Not Applicable to this site.
D.1.u	Any other infrastructure There is no other infrastructure proposed.

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D.2 Facility Operations

D.2.(a). Unit operations

The necessary site infrastructure including portaloo, waste quarantine and inspection area, etc will be located on a leveled out area to the south of the site access road.

The attached Site Infrastructure Plans (Refer to Figure D.1.1 & D.1.2) indicate the location of all activities and identifies all buildings and facilities at the Recovery Facility.

Delivery, Inspection & Acceptance

Materials to be recovered will only be accepted from approved Contractors who are aware of the need for and who undertake strict segregation and sorting of waste prior to transporting it to the application site;

Typically loads of up to 9 cu.m will be imported to site. Only hauliers with the appropriate Waste Collection Permits will be accepted.

All truck loads entering the site will be given a preliminary visual inspection at the site office at the entrance. If the material is not considered acceptable the haulier will be refused entry and directed to an appropriate Waste Management Facility. Any Contractor who persistently carries unacceptable waste to the application site will be denied further use of the facility.

Details of all truckloads entering the site are entered into a logbook maintained by the operator. A designated internal haul road will be maintained to direct site traffic to the tipping area.

Accepted materials will be subject to a second inspection after each load is tipped at the restoration infill area within the site. Should a load of material indicate contamination of non inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility.

Quarantine

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

Recovery of Soils

Following the second inspection the material will be accepted and placed within the restoration (placement by bulldozer) area or in the case of topsoil placed in temporary storage awaiting final placement.

Phasing of Restoration Works

The lands have been progressively restored subject to successive Waste Management Permits dating back to 2001.

The phased scheme for final restoration of the area is shown by Figure B.2.4. The volume of material required to be imported to the site to complete the proposed restoration scheme has been calculated (using the Digital Terrain Modelling Software Package LSS) and is shown below. It is proposed that that the void space will be filled within 1 to 5 years (subject to market conditions).

Volume of Void Space Remaining at Thornberry Site, Kill, Co. Kildare

Phase	Void Space m ³	Compacted Volume m ³	**tonnes
1	90000	100000	200000
2	90000	100000	200000
Totals	180000	200000	400000

Notes:

* An approximate settlement factor of 10% has been assumed following placement of materials.

** Assumes density of imported soils as 2 tonnes/m³

The lands are to be restored to agricultural use by importation and recovery of inert materials in accordance with a phased restoration scheme. It is the intention to develop them for agricultural use.

A bulldozer is used to appropriately grade and compact the material to the desired profile as shown by the detailed plans and sections (Refer to Figures B.2.4 and B.2.5). Typically the soil is placed in 2-3 metre lifts with fill slopes of a safe angle of repose of 1:2.

It is proposed to reclaim the lands to a condition / gradient suitable for agricultural. Good quality imported soil will be conserved wherever possible to provide the subsoil/top-soil capping. These topsoil's/subsoil's will be handled under dry conditions to minimise

compaction. For the purpose of restoration to agricultural the restored soil profile (capping) shall comprise 300mm topsoil over 1200-1350mm of subsoil.

Progressive restoration involving grass seeding of restored area's shall be carried out on a staged basis to reduce the effects of soil erosion, windblown dust, to aid ground stabilisation and as an effective means of weed control. On completion of each phase of development final restoration including grading, seeding and landscaping will be carried out. Final restoration is dependent on the availability of good topsoil/subsoil and subject to suitable weather conditions. In order to allow for continuity of operations it is necessary to have a certain overlap between phases. The final contours and topography for the site is shown by the Final Landform Plan Figure B.2.4 and Cross Sections B.2.5.

Once the topsoil is re-instated it will be seeded with a suitable mix of grasses suitable for pasture in order to quickly stabilise the topsoil. Once the grass sward has become established the restored farmland can be kept either as pasture, hay meadow or arable land. Part of the area has already been restored to grassland.

Phase 1

This is the area of the pit currently undergoing progressive restoration. The eastern portion of phase one strip has been restored and/or is used to store indigenous soils for final restoration. The remaining portion of this phase has been largely filled and is awaiting final capping with the indigenous soils.

Phase 2

The sand and gravel deposits in this area have been worked out. This area is currently being used to process and stockpile sand and gravel. It is proposed that the sand and gravel processing activity will be relocated to the active pit area (towards site entrance) to facilitate progressive restoration of this area by backfilling once infilling of Phase 1 is completed.

Decommissioning

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of activity. Plant and machinery will either be utilised by the operators on other sites, or be sold as working machinery or scrap. Any hard standing areas shall be broken up and the material incorporated into the final restoration scheme and or processed to produce secondary aggregates. The site access will be retained as agricultural access to the restored lands.

As part of the decommissioning process, all fuel and oil storage tanks will be removed from the site by a licensed waste contractor. The portaloo will also be removed from the site. Therefore there will be no potential for fuel, oil or sewage to cause long-term water pollution following cessation of activities.

Recovery of Construction Materials

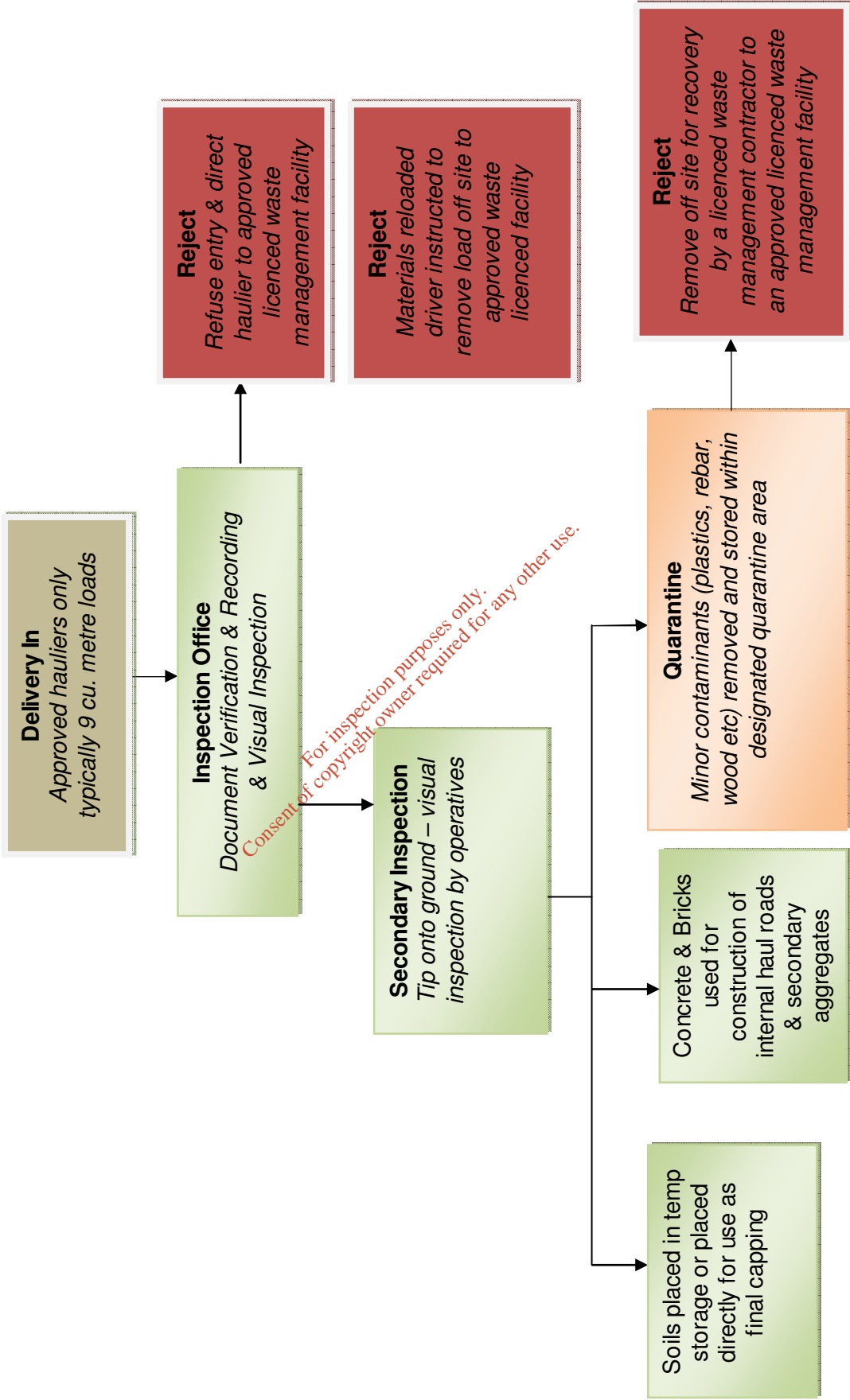
Clean construction and demolition waste will either be placed directly on haul roads or temporarily placed in storage awaiting recovery.

Recovery and re-cycling activities at the application site will involve tipping of previously stockpiled 'unprocessed' material into a mobile crushing & processing plant using a front-end loader (Refer to Figure D.1.1). Material produced by the plant will then be transported by front-end loader to 'processed' stockpiles. Recovered material will be used for internal haul roads and/or dispatched offsite. Currently this material is being used at the neighbouring Arthurstown Landfill Facility.

No sorting of materials other than separation of rebar from concrete will be undertaken on site as all material will be sorted and segregated at source before being brought to the application site. Rebar (reinforced steel) separated from concrete will be stored in the designated quarantine area awaiting removal off-site by a licensed scrap merchant.

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D.2.(b). Flow diagram of the whole process, along with a brief description (*italics*) detailing its management and maintenance plans.



D.2.(c). Aspects of the facility operation that can cause emissions to the environment during normal operation

The main potential sources of emissions from an inert waste recovery facility would be from noise or dust associated with the movement, handling and placement of materials. Possible other emissions to the atmosphere would be from machinery exhaust fumes and also possible emissions to surface and/or groundwater in the event of a fuel spillage. Full descriptions of possible emissions, means of abatement and treatment measures are contained in Attachments E & F.

D.2.(d). Brief details of the activities carried on in laboratory facilities associated with the activity (if relevant).

A laboratory is not required on site as the facility will only accept inert material. Any laboratory analysis (e.g. soils, surface & groundwater, dust) required will be carried out by an accredited laboratory off site.

D.2.(e). For Incineration facilities (if applicable), provide information to fulfil Article 6 of the Incineration of Waste Directive.

Not Applicable to the proposed site.

D.3 Liner System

No liner system is required as only inert material is being used to restore the lands.

D.4 Leachate Management

As only inert materials are being used to restore the lands, no leachate will be created and therefore no leachate management is required.

A groundwater monitoring programme will also be put in place to ensure that there is no impact on water quality as a result of the recovery operations.

D.5 Landfill Gas Management

As only inert materials are being used to restore the lands there will be no landfill gas generated as result of the recovery activity on site.

D.6 Capping System

It is proposed to reclaim the lands to a condition and profile suitable for agricultural use. For the purpose of restoration to agriculture the restored soil profile (capping) shall comprise 300mm topsoil over 1200-1350mm of subsoil.

The applicant is an experienced earthmoving contractor. Soils will be handled in accordance with accepted guidelines and good practice.

Good quality soil material for final capping will be placed in temporary storage areas. Topsoil and subsoil will be stockpiled separately to maintain the integrity of the soil.

To ensure that damage to these materials is kept to a minimum, movement and placement of topsoil and subsoil for final restoration will only take place during appropriate weather conditions and when the soils are in the optimum condition. This optimum soil condition may be described as moist but friable. No soils will be moved when they are too dry or when there are unusually windy weather conditions. This will help to prevent erosion and any consequential creation of dust. Conversely, soils will not be handled in wet conditions or when the moisture content of the soils is too high. This will ensure that smearing of the soils does not take place and that the soil retains its structure.

Progressive restoration involving grass seeding of restored area's will be carried out on a staged basis to reduce the effects of soil erosion, windblown dust, to aid ground stabilisation and as an effective means of weed control.

Attachment E

Emissions

<u>Sub-Section</u>	<u>Contents</u>
E.1	Emissions to Atmosphere
E1(a)	Composting Emissions
E1(b)	Particulates – waste storage/treatment/handling
E1(c)	Landfill Gas Emissions
E1(d)	Landfill Leachate Emissions
E1(e)	Infectious organisms/pathogens (clinical waste handling)
E1(f)	Thermal oxidizer Emissions
E1(g)	Other Emissions.
E1(g).i.	Fugitive Dust Emissions
E.2	Emissions to Surface Water
E.3	Emissions to Sewer
E.4	Emissions to Groundwater
E.5	Noise Emissions
E.6	Environmental Nuisances
E.6.1	Bird Control
E.6.2	Dust Control
E.6.3	Fire Control
E.6.4	Litter Control
E.6.5	Traffic Control
E.6.6	Vermin Control
E.6.7	Road Cleansing
Tables	
E.1(i)	LANDFILL GAS FLARE EMISSIONS TO ATMOSPHERE
E.1(ii)	MAIN EMISSIONS TO ATMOSPHERE
E.1(iii):	MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission
E.1(iv):	EMISSIONS TO ATMOSPHERE - Minor /Fugitive
E.2(i):	EMISSIONS TO SURFACE WATERS
E.2(ii):	EMISSIONS TO SURFACE WATERS - Characteristics of the emission
E.3(ii):	EMISSIONS TO SEWER
E.3(ii):	EMISSIONS TO SEWER - Characteristics of the emission
E.4(i):	EMISSIONS TO GROUNDWATER
E.5(i):	NOISE EMISSIONS TABLE

E.1 Emissions to Atmosphere

The following Section E1 includes details of all emissions to atmosphere relating to the existing waste management facility at Thornberry. Refer also to Environmental Monitoring Plan (F.1) with respect to location of emission points.

E1(a) Composting Emissions

Not applicable. No composting of green waste takes place at the facility

E1(b) Particulates – waste storage/treatment/handling

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. There is no evidence to suggest that dust of respirable sizes (i.e. less than 10 micrometres in diameter) could be present in concentrations to cause effects on human health. Relevant details with respect to fugitive dust emissions are discussed below under Section E1(g).i.

E1(c) Landfill Gas Emissions

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

E1(d) Landfill Leachate Emissions

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

E1(e) Infectious organisms/pathogens (clinical waste handling)

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

E1(f) Thermal oxidizer Emissions

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

E1(g) Other Emissions.**E1(g).i. Fugitive Dust Emissions**

The materials to be recovered are principally “soils and stone” and inert construction and demolition waste. Any dust generated by the operation will comprise inert particulate matter.

Experience of reclamation workings indicates that mechanical activity is the most significant factor in material erosion and dust generation. Dust emanates from the placement of materials, the movement of vehicles on internal roads loading and processing operations. However the effect of wind is also an important factor in dust generation and problems may arise at reclamation workings when both factors arise simultaneously.

The impact of fugitive dust will be direct, temporary and non-cumulative and largely confined to the application site.

Dust emissions from solids stored in the open.

Refer to Table E.1(iv): Emissions to Atmosphere (Minor /Fugitive) with respect to measures to control (abatement) of fugitive (ground) emissions.

Loading and unloading operations.

Refer to Table E.1(iv): Emissions to Atmosphere (Minor /Fugitive) with respect to measures to control (abatement) of fugitive (ground) emissions.

Cleaning operations.

Refer to Table E.1(iv): Emissions to Atmosphere (Minor /Fugitive) with respect to measures to control (abatement) of fugitive (ground) emissions.

Emissions from wastewater/leachate treatment (e.g. volatile organics).

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

Emissions from any pressure release valves on waste liquid tanks.

Not applicable. The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste.

Emissions from composting, including odour and bioaerosols.

Not applicable. No composting of green waste takes place at the facility.

TABLE E.1(i) LANDFILL GAS FLARE EMISSIONS TO ATMOSPHERE

Emission Point:

Emission Point Ref. N ^o :	NOT APPLICABLE
Location :	
Grid Ref. (12 digit, 6E,6N):	
Vent Details Diameter:	
Height above Ground(m):	
Date of commencement of emission:	

Characteristics of Emission :

CO		mg/m ³
Total organic carbon (TOC)		mg/m ³
NO _x		mg/Nm ³ 0°C. 3% O ₂ (Liquid or Gas), 6% O ₂ (Solid Fuel)
Maximum volume of emission		m ³ /hr
Temperature	°C(max)	°C(min) °C(avg)

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(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day _____ day/yr
---------------------------	--

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. N ^o :	NOT APPLICABLE
Source of Emission:	
Location :	
Grid Ref. (12 digit, 6E,6N):	
Vent Details Diameter:	
Height above Ground(m):	
Date of commencement:	

Characteristics of Emission :

(i) Volume to be emitted:	NOT APPLICABLE		
Average/day	m ³ /d	Maximum/day	m ³ /d
Maximum rate/hour	m ³ /h	Min efflux velocity	m.sec ⁻¹
(ii) Other factors			
Temperature	°C(max)	°C(min)	°C(avg)
For Combustion Sources:			
Volume terms expressed as :	<input type="checkbox"/> wet.	<input type="checkbox"/> dry.	_____ %O ₂

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day _____ day/yr
---------------------------	--

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

NOT APPLICABLE

Emission Point Reference Number: _____

Parameter	Prior to treatment ⁽¹⁾				Brief description of treatment	As discharged ⁽¹⁾								
	mg/Nm ³		kg/h			mg/Nm ³		kg/h.						
	Avg	Max	Avg	Max		Avg	Max	Avg	Max					

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1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C, 101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor /Fugitive

Emission point Reference Numbers	Description	Emission details ¹			Abatement system employed
		material	mg/Nm ^{3/2}	kg/h.	
A2-1*	Internal Haul Roads	Dust	Unknown	Unknown	<p>During dry weather the haul roads will be sprayed with water to dampen any likely dust blows. A water bowser will be maintained on site for this purpose.</p> <p>Consideration will be given to location of mobile plant so as to ensure that any principle dust sources cannot adversely affect sensitive off-site locations.</p> <p>Static and mobile wet dust suppression systems will be located at strategic points in the process if required.</p> <p>Drop heights are kept to a minimum by using short conveyors and maintaining stocks under the head drum load out points.</p> <p>Main site haulage routes within the site shall be maintained with a good temporary surface, as is the case at present.</p> <p>Suitable vegetation is to be provided on restored areas at the earliest opportunity.</p> <p>Ongoing dust monitoring to ensure threshold limits are not exceeded</p>
A2-2*	Tipping Area	Dust	Unknown	Unknown	
A2-3	Processing Area	Dust	Unknown	Unknown	

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- 1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.
- 2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

* **Location Varies dependent on area of site being restored (Refer also to Environmental Monitoring Plan (F.1.))**

E.2 Emissions to Surface Water

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of surface waters. The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.

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TABLE E.2(i): EMISSIONS TO SURFACE WATERS
(One page for each emission)

Emission Point: Not Applicable

Emission Point Ref. N ^o :	
Source of Emission:	
Location :	
Grid Ref. (10 digit, 5E,5N):	
Name of receiving waters:	
Flow rate in receiving waters:	_____ m ³ .sec ⁻¹ Dry Weather Flow _____ m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	_____ kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	_____ m ³	Maximum/day	_____ m ³
Maximum rate/hour	_____ m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day _____ day/yr
---------------------------	--

TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)

Emission point reference number : NOT APPLICABLE

Parameter	Prior to treatment			As discharged			% Efficiency	
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)		kg/day

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E.3 Emissions to Sewer

On site activities will not discharge to any sewerage system. It is proposed to use a portable chemical toilet for the site. The portable toilet will be maintained under contract and serviced as required.

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TABLE E.3(i): EMISSIONS TO SEWER (One page for each emission)

Emission Point: NOT APPLICABLE

Emission Point Ref. N ^o :	
Location of connection to sewer :	
Grid Ref. (10 digit, 5E,5N):	
Name of sewage undertaker:	

Emission Details:

(i) Volume to be emitted			
Normal/day	m ³	Maximum/day	m ³
Maximum rate/hour	m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr	_____ hr/day	_____ day/yr
---------------------------	--------------	--------------	--------------

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TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number : NOT APPLICABLE

Parameter	Prior to treatment		As discharged			% Efficiency			
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. daily average (mg/l)		kg/day	kg/year	

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E.4 Emissions to Groundwater

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of groundwater waters. The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations.

It is proposed to use a portable chemical toilet for the site. The portable toilet will be maintained under contract and serviced as required.

Due to the nature of material to be deposited the potential for pollution to the underlying aquifer and the surface watercourses will be limited.

Groundwater quality is currently monitored at the site in compliance with the Waste Management Licence for the adjoining Arthurstown Landfill Facility (EPA Registration No. W0004-03).

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TABLE E.4(i): EMISSIONS TO GROUNDWATER (1 Page for each emission point)

Emission Point or Area: NOT APPLICABLE

Emission Point/Area Ref. N ^o :	
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (10 digit, 5E,5N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

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Emission Details: NOT APPLICABLE

(i) Volume to be emitted			
Normal/day	m ³	Maximum/day	m ³
Maximum rate/hour	m ³		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr
---------------------------	-------------------------------------

E.5 Noise Emissions

The main source of noise and vibration on site is from:

- Movement of trucks on internal haul roads and tipping of material (N1)
- Bulldozer placing and grading the infill material (N2)
- Processing Plant (N3)

Given the nature of the development the location of the above will vary dependent on area of site being restored (Refer to Figure B.2.1 Site Plan). Relevant details with respect to noise sources are provided in the following Table E.5.(i).

Refer to Attachment F for details with respect to attenuation and noise control.

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Table E.5(j): NOISE EMISSIONS - Noise sources summary sheet

Source	Emission point Ref. No	Equipment Ref. No	Sound Pressure ¹ dBA at reference distance (10m)	Octave bands (Hz)								Impulsive or tonal qualities	Periods of Emission	
				31.5	63	125	250	500	1K	2K	4K			8K
Trucks	N1		75											Intermittent 0800 to 1800 hrs
Bulldozer	N2		78.3	69.2	72.9	72.4	66.1	69.3	67.5	64.8	61.1	57.3	None Discernible during monitoring	Intermittent 0800 to 1800 hrs
Processing Plant	N3		79.5	64.6	76.9	74.9	72.5	68.9	72	69.6	67.7	58.8	None Discernible during monitoring	Intermittent 0800 to 1800 hrs

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1. For items of plant sound power levels may be used.

E.6 Environmental Nuisances

E.6.1 Bird Control

It is not envisaged that birds will be a problem as all infill material is inert and no domestic or municipal waste will be accepted on site. As such there will be no need for any specific controls for birds.

E.6.2 Dust Control

Refer to Table E.1(iv): Emissions to Atmosphere (Minor /Fugitive) with respect to measures to control (abatement) of fugitive (ground) emissions i.e.

- During dry weather the haul roads and stockpiles are sprayed with water to dampen any likely dust blows. A water bowser will be available on site as required for this purpose.
- Consideration will be given to location of mobile plant so as to ensure that any principle dust sources cannot adversely affect sensitive off-site locations.
- Static and mobile wet dust suppression systems will be located at strategic points in the process if required.
- Drop heights are kept to a minimum by using short conveyors and maintaining stocks under the head drum load out points.
- The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to the public road
- Main site haulage routes within the site shall be maintained with a good temporary surface, as is the case at present.
- All internal roadways will be adequately drained, to prevent ponding.
- Suitable vegetation is to be provided on restored areas at the earliest opportunity.
- Proposed dust monitoring to ensure threshold limits are not exceeded.

E.6.3 Fire Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such it is not expected that the site activities concerned are likely to give rise to any significant risk of fire.

In the event of a fire, the employee on the scene shall raise the alarm with all staff in the immediate area and confirm that all staff are present and accounted for. Assist in containing the fire using the appropriate extinguisher – only if it is safe and they are confident to do so. All personnel will have also undergone appropriate training and will be aware of potential hazards on site.

In the event where a fire cannot be controlled the appropriate emergency services will be contacted either by dialling “999 or 112” and informing the operator of which service is required. An emergency contact list shall be maintained at the site entrance and administration office in Rathmore.

The incident will also be reported immediately to the Site Foreman/Operations Manager.

If the fire is located adjacent to explosive or further flammable materials the area should be vacated immediately and personnel should retreat a safe distance. Emergency services should be made aware of any potential hazards on site when they arrive.

E.6.4 Litter Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such it is not expected that the site activities concerned are likely to give rise to litter.

The site entrance gates remain locked outside of normal working hours and public warning notices are posted at appropriate locations along the site boundary. The site is also monitored with CCTV at the site entrance. These measures are to ensure that there is no unauthorised dumping of unacceptable wastes outside of operating hours likely to give rise to nuisance.

A daily site inspection including site boundaries adjoining public roads shall be carried out. Any litter observed will be removed as soon as possible and disposed of to a suitable Waste Management Facility.

Waste oils, batteries, scrap metal etc, will be removed from site for recycling by approved licensed contractors. A licensed waste collection contractor will remove any domestic waste requiring disposal to a licensed waste management facility.

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and stored in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

E.6.5 Traffic Control

Car parking including visitors parking will be provided at the site entrance. Trucks entering the site will report to the site Facility Manager/Site Foreman where each load will be inspected as to its suitability to be recovered on site.

The site entrance has also been designed to ensure that queuing for vehicles entering the site is safely accommodated off the main public road.

Traffic direction signs, warning signs, speed limit signs are established throughout the site.

E.6.6 Vermin Control

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such the site activities concerned will not give rise to a need to introduce vermin control.

E.6.7 Road Cleansing

The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to the public road and a wheelwash is not considered necessary.

In the event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner, as soon as they notice or are notified that a spillage has arisen. A road sweeper is readily available at short notice to sweep up any materials which may accidentally fall onto the public roadway.

Attachment F

Control & Monitoring

<u>Sub-Section</u>	<u>Contents</u>
F.1	Treatment, Abatement and Control Systems
F.1.1	To Atmosphere
F.1.2	To Surface water/Sewer/Ground (water)
F.1.3	Noise Emissions
F.2	Monitoring & Sampling Points - Air
F.3.	Monitoring & Sampling Points – Surface Water
F.4.	Monitoring & Sampling Points – Sewer Discharge
F.5.	Monitoring & Sampling Points – Groundwater
F.6.	Monitoring & Sampling Points - Noise
F.7.	Monitoring & Sampling Points - Meteorological Data
F.8.	Monitoring & Sampling Points – Leachate
F.9.	Monitoring & Sampling Points - Landfill Gas

Tables

F.1.1:	ABATEMENT / TREATMENT CONTROL - AIR
F.1.2:	ABATEMENT / TREATMENT CONTROL - SURFACE WATER
F.1.3:	ABATEMENT / TREATMENT CONTROL - NOISE
F2:	ENVIRONMENT MONITORING AND SAMPLING LOCATIONS - Fugitive Dust
F.3:	EMISSIONS MONITORING AND SAMPLING POINTS - Surface Water
F.4:	EMISSIONS MONITORING AND SAMPLING POINTS – Sewer
F.5:	EMISSIONS MONITORING AND SAMPLING POINTS – Groundwater
F6:	ENVIRONMENT MONITORING AND SAMPLING LOCATIONS – Noise

FIGURES *(All Figures are contained in Attachment N)*

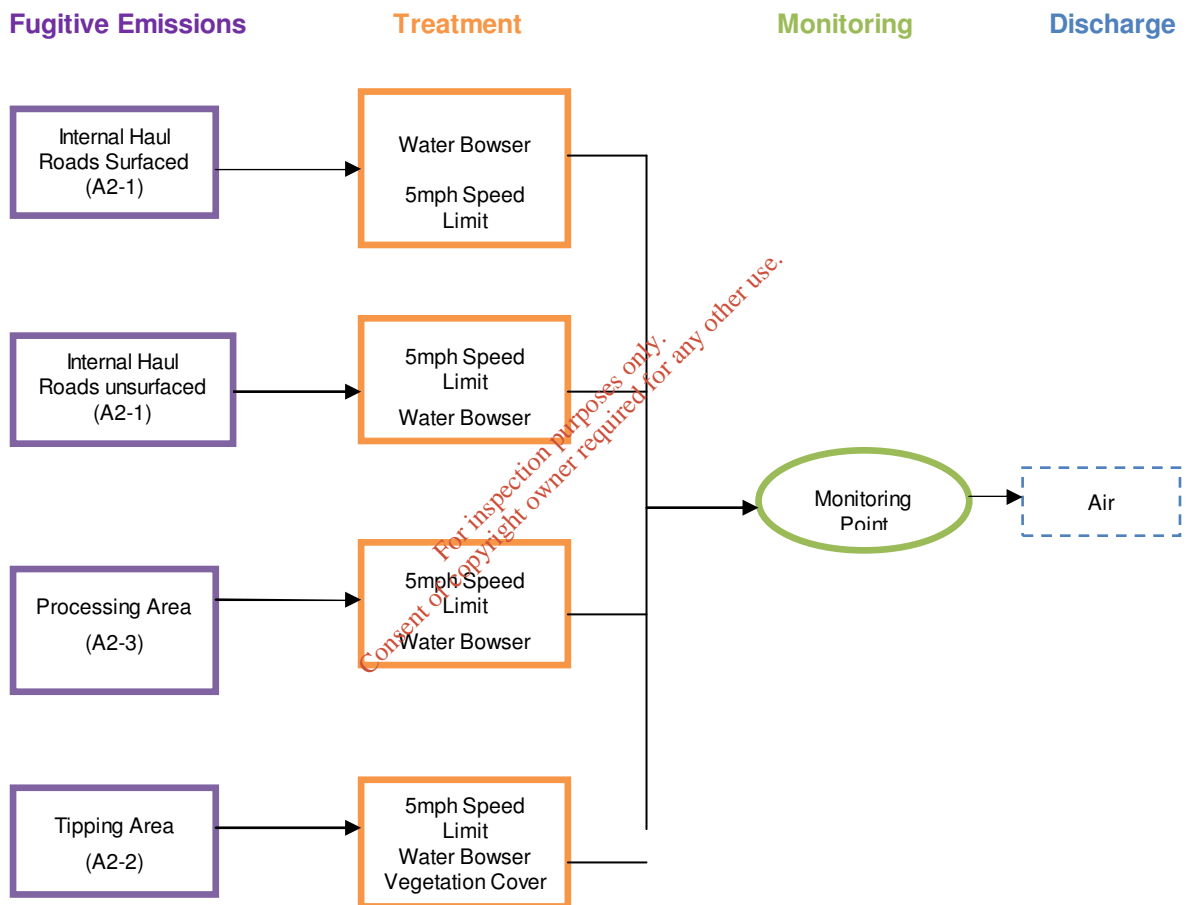
F.1	Environmental Monitoring Plan
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F.1 Treatment, Abatement and Control Systems

The following section details the techniques for preventing, or reducing the emissions from the existing waste management facility including treatment/abatement systems as necessary.

F.1.1 To Atmosphere

The following flow diagram shows the sources of fugitive dust emissions arising on site and the methods of treatment/abatement employed.



Emissions

Within the application area, the following site activities may give rise to potential fugitive dust emissions:

- Internal movement of vehicles (A2-1)
- Tipping and levelling of placed materials (A2-2)
- Loading and Unloading of Vehicles (A2-2, A2-3)

- Processing Area (A2-3)

The impact of fugitive dust will be direct, temporary and non-cumulative and largely confined to the application site.

Abatement

A number of measures have been adopted to minimise dust emissions to the atmosphere from general site activity, internal haulage and tipping operations as follows:

- During dry weather the haul roads and stockpiles are sprayed with water to dampen any likely dust blows. A water bowser will be available on site as required for this purpose.
- Consideration will be given to location of mobile plant so as to ensure that any principle dust sources cannot adversely affect sensitive off-site locations.
- Static and mobile wet dust suppression systems will be located at strategic points in the process if required.
- Drop heights are kept to a minimum by using short conveyors and maintaining stocks under the head drum load out points.
- The site access road has been provided with an asphalt surface for a distance of c. 150 metres. Imported clean construction and demolition waste (concrete and brick) is used to construct internal haul roads as required on site. As such there is no evidence of mud and debris being carried out on to the public road
- Main site haulage routes within the site shall be maintained with a good temporary surface, as is the case at present.
- All internal roadways will be adequately drained, to prevent ponding.
- Suitable vegetation is to be provided on restored areas at the earliest opportunity.

TABLE F.1.1: ABATEMENT / TREATMENT CONTROL - AIR**Emission point reference number : Fugitive Dust Emissions (A2-1 to A2-3)**

Control ¹ parameter	Equipment ²	Equipment maintenance	Equipment calibration	Equipment back-up
Air Quality – Fugitive Dust	Water Bowser	Routine	Not Applicable	Not Applicable
	Wheel Wash	Daily - Visual	Not Applicable	Not Applicable
	Dust Suppression	Daily - Visual	Not Applicable	Not Applicable

Control ¹ parameter	Monitoring to be carried out ³	Monitoring equipment	Monitoring equipment calibration
Air Quality – Fugitive Dust	Bi-annually	Bergerhoff gauges	Analysis by accredited Laboratory

¹ List the operating parameters of the treatment / abatement system which control its function.

² List the equipment necessary for the proper function of the abatement / treatment system.

³ List the monitoring of the control parameter to be carried out.

F.1.2 To Surface water/Sewer/Ground (water)

Emissions

As the only material to be imported to site is "Soil and stone" and inert construction and demolition waste there will be no source of possible contamination of surface and/or ground waters.

The natural drainage pattern existing on site means that rain water falling on the site percolates through the existing soil strata (sand and gravel) to the underlying bedrock. The existing drainage pattern is expected to remain unaltered following cessation of the reclamation operations.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary.

On site activities will not discharge to any sewerage system. It is proposed to use the proposed portable chemical toilet.

A groundwater monitoring programme will also be put in place to ensure that there is no impact on water quality as a result of the recovery operations.

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Abatement

A mobile double skinned (integrated bunding) fuel bowser is proposed to be used to refuel mobile plant on site.

Oil and Waste oil products are stored under cover. All oil barrels and lubricants will be stored on spill pallets/ spill trays. Waste oils are disposed of by a licensed waste contractor and removed off site.

Spill kits will also maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

A groundwater monitoring programme will also be put in place to ensure that there is no impact on water quality as a result of the recovery operations.

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TABLE F.1.2: ABATEMENT / TREATMENT CONTROL – SURFACE WATER

Emission point reference number : Not Applicable

Control ¹ parameter	Equipment ²	Equipment maintenance	Equipment calibration	Equipment back-up

Control ¹ parameter	Monitoring to be carried out ³	Monitoring equipment	Monitoring equipment calibration

¹ List the operating parameters of the treatment / abatement system which control its function.

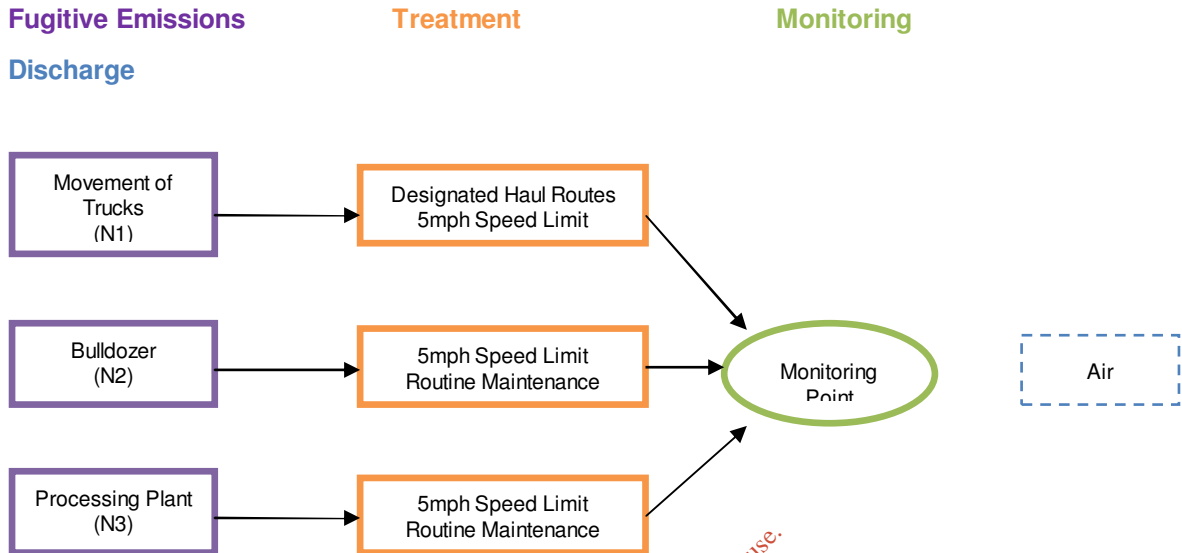
² List the equipment necessary for the proper function of the abatement / treatment system.

³ List the monitoring of the control parameter to be carried out.

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F.1.3 Noise Emissions

The following flow diagram shows the main sources of noise emissions arising on site and the methods of treatment/abatement employed.



Emissions

The main source of noise and vibration on site is from:

- Movement of trucks on internal haul roads and tipping of material (N1)
- Bulldozer placing and grading the infill material (N2)
- Processing Plant (N3)

Abatement

A number of noise containment measures are proposed:

- The provision of temporary peripheral screen banks to screen site activities from outside views.
- General site activity will be within the existing pit and below the level of the nearest residences.
- The use of designated haul roads to ensure that site traffic is removed from nearest noise sensitive receptors.
- Regular maintenance of all plant and machinery is an integral part of site management and is important in helping to minimise noise impact.

- All plant and equipment will conform to noise emission limits set out in Statutory Instrument No. 320 of 1998 European Communities Construction Plant and Equipment- Permissible Noise Levels (Regulations, 1998) and amendment set out in Statutory Instrument No. 359 of 1996.
- Noise monitoring can be carried out at two noise monitoring stations (N4-N5) in the vicinity of the nearest noise sensitive properties (refer to Figure F 1.0) in accordance with any monitoring programme agreed with the EPA.

The results of monitoring to date shows that the development can comply with the noise level threshold as specified and as a consequence the development will have no significant effects regards noise levels in the area.

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TABLE F.1.3: ABATEMENT / TREATMENT CONTROL - NOISE**Emission point reference number :N1-N3**

Control ¹ parameter	Equipment ²	Equipment maintenance	Equipment calibration	Equipment back-up
Air - Noise	Trucks Bulldozer Processing Plant	Routine Routine Routine	Not Applicable Not Applicable Not Applicable	Not Applicable Not Applicable Not Applicable

Control ¹ parameter	Monitoring to be carried out ³	Monitoring equipment	Monitoring equipment calibration
Air - Noise	Bi-annually	Sound Level Meter	Annually

¹ List the operating parameters of the treatment / abatement system which control its function.

² List the equipment necessary for the proper function of the abatement / treatment system.

³ List the monitoring of the control parameter to be carried out.

F.2 Monitoring & Sampling Points - Air

The existing waste management permit (WMP 30/2001B) does not specifically set any limits on dust for the site *“The permit holder shall take adequate precautions to prevent undue noise, fumes, dust, grit, untidiness, and other nuisances during the course of the works which would result in a significant impairment of or a significant interference with amenities or the environment beyond the site boundary. “*

It is proposed that the operator set up a dust monitoring programme using Bergerhoff Dust Gauges. Two dust monitoring stations (A2-4, A2-5) will be established at the site boundary (Refer to Environmental Monitoring Plan Figure F 1.0).

Dust fall is measured using the Bergerhoff method as set out in German Standard VDI 2119. The normal recommended standard for dust emissions for this type of development is that “dust deposition shall not exceed 350 mg/m²/day measured at the site boundaries and averaged over 30 days”. This limit refers to total dust (using DIN method).

The above standard is also in accordance with guidance issued by both the Department of the Environment and the EPA in relation to dust deposition monitoring for these types of developments and will continue to be applied.

This programme will allow on-going monitoring of fugitive dust emissions from the site, thereby assisting in ensuring compliance with any future requirements or regulations.

TABLE F2: ENVIRONMENT MONITORING AND SAMPLING LOCATIONS - Fugitive Dust

Monitoring Point Reference No (s): A2-4, A2-5

Parameter	Monitoring frequency	Accessibility of Sampling point
mg/m ² /day	Bi-annually	Easily accessible via site entrance

F.3. Monitoring & Sampling Points – Surface Water

The nearest watercourse to the application site is the Kill River, of which a smaller tributary of this river forms the southern boundary of the landholding.

There is no discharge of surface water run-off from the site. A Buffer zone of 30 metres has been provided to the nearest surface water course to the site. A further 30m strip has either been restored and/or used to store indigenous soils for final restoration along the eastern site boundary. It is not considered necessary to monitor surface water in the area.

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TABLE F.3: EMISSIONS MONITORING AND SAMPLING POINTS - Surface WaterEmission Point Reference No(s) : NOT APPLICABLE

Parameter	Monitoring frequency	Accessibility of Sampling Points
pH		
Temperature		
Electrical conductivity EC		
Ammoniacal nitrogen NH₄-N		
Chemical oxygen demand		
Biochemical oxygen demand		
Dissolved oxygen DO		
Calcium Ca		
Cadmium Cd		
Chromium Cr		
Chloride Cl		
Copper Cu		
Iron Fe		
Lead Pb		
Magnesium Mg		
Manganese Mn		
Mercury Hg		
Nickel Ni		
Potassium K		
Sodium Na		
Sulphate SO₄		
Zinc Zn		
Total alkalinity (as CaCO₃)		
Total organic carbon TOC		
Total oxidised nitrogen TON		
Nitrite NO₂		
Nitrate NO₃		
Faecal coliforms (/100mls)		
Total coliforms (/100mls)		
Phosphate PO₄		

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F.4. Monitoring & Sampling Points – Sewer Discharge

On site activities will not discharge to any sewerage system. It is proposed to provide the site with a portable chemical toilet which will be regularly serviced under contract with a provider.

TABLE F.4: EMISSIONS MONITORING AND SAMPLING POINTS – Groundwater

Emission Point Reference No(s). : _____

Parameter	Monitoring frequency	Accessibility of Sampling Points
	NOT APPLICABLE	

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F.5. Monitoring & Sampling Points – Groundwater

There are two wells on site (Refer to Environmental Monitoring Plan Figure E 1.0).

It is proposed to monitor these two wells in accordance with the conditions as attached to the waste licence for the facility. Refer also to Table F5 below with respect to suite of parameters and monitoring frequency.

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TABLE F.5: EMISSIONS MONITORING AND SAMPLING POINTS - Groundwater**Emission Point Reference No(s) : GW1, GW2**

Parameter	Monitoring frequency	Accessibility of Sampling Points
pH	Quarterly	Wells- Contact Facility Manager to facilitate access
Temperature	Quarterly	As above
Electrical conductivity EC	Quarterly	As above
Ammoniacal nitrogen NH₄-N	Quarterly	As above
Dissolved oxygen DO	Quarterly	As above
Residue on evaporation (180°C)	Quarterly	As above
Calcium Ca	Quarterly	As above
Cadmium Cd	Quarterly	As above
Chromium Cr	Quarterly	As above
Chloride Cl	Quarterly	As above
Copper Cu	Quarterly	As above
Cyanide Cn, total	Quarterly	As above
Iron Fe	Quarterly	As above
Lead Pb	Quarterly	As above
Magnesium Mg	Quarterly	As above
Manganese Mn	Quarterly	As above
Mercury Hg	Quarterly	As above
Nickel Ni	Quarterly	As above
Potassium K	Quarterly	As above
Sodium Na	Quarterly	As above
Phosphate PO₄	Quarterly	As above
Sulphate SO₄	Quarterly	As above
Zinc Zn	Quarterly	As above
Total alkalinity (as CaCO₃)	Quarterly	As above
Total organic carbon TOC	Quarterly	As above
Total oxidised nitrogen TON	Quarterly	As above
Arsenic As	Quarterly	As above
Barium Ba	Quarterly	As above
Boron B	Quarterly	As above
Fluoride F	Quarterly	As above
Phenol	Quarterly	As above
Phosphorus P	Quarterly	As above
Selenium Se	Quarterly	As above
Silver Ag	Quarterly	As above
Nitrite NO₂	Quarterly	As above
Nitrate NO₃	Quarterly	As above

Faecal coliforms (/100mls)	Quarterly	As above
Total coliforms (/100mls)	Quarterly	As above
Water level (m OD)	Quarterly	As above

F.6. Monitoring & Sampling Points - Noise

Noise monitoring will be carried out at nearby residences and site boundaries adjoining same (Refer to Environmental Monitoring Plan Figure F 1). Continuous noise monitoring will be carried out in accordance with ISO 1996/1 – 1982 “Acoustics – Description and Measurement of Environmental Noise” using a Larson Davis Model 812 Sound Level Meter which is calibrated using a Larson Davis Acoustic Calibrator CAL 200. The results of background noise monitoring are provided in Attachment I.6.

The operator will established an environmental monitoring programme to include noise monitoring. It is proposed to carry out noise monitoring at the site boundary adjoining nearest dwelling houses on a quarterly basis. Noise levels will be monitored in accordance with ISO 1996 “Acoustics – Description and measurement of environmental noise” Part 1, 2 and 3. Continuous noise monitoring will be carried out using a Larson Davis Model 812 Sound Level Meter, which will be calibrated by an Acoustic Calibrator CAL 200.

TABLE F6: ENVIRONMENT MONITORING AND SAMPLING LOCATIONS - Noise

Monitoring Point Reference No (s): N4, N5. _____

Parameter	Monitoring frequency	Accessibility of Sampling point
L(A) _{EQ} [30 minutes] L(A) ₁₀ [30 minutes] L(A) ₉₀ [30 minutes] Frequency Analysis (1/3 Octave band analysis)	Annually Annually	Easily accessible via site entrance

F.7. Monitoring & Sampling Points - Meteorological Data

As the only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste it is considered that the proposed development will not have any direct or indirect impacts on the regional or local climatic conditions. Therefore no site monitoring is considered necessary with respect to recording of Meteorological Data.

F.8. Monitoring & Sampling Points - Leachate

As only inert materials are being used to restore the lands, no leachate will be created and therefore no monitoring of leachate is required.

F.9. Monitoring & Sampling Points - Landfill Gas

As only inert materials are being used to restore the lands, no landfill gas will be created and therefore no monitoring is required.

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Attachment G

Resources Use & Energy Efficiency

<u>Sub-Section</u>	<u>Contents</u>
G.1	Raw Materials, Substances, Preparations and Energy
G.2	Energy Efficiency
Tables	
G.1	Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

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G.1 Raw Materials, Substances, Preparations and Energy

The only waste to be accepted at the facility for recovery comprises inert soils and stone, and inert construction and demolition waste. As such the material does not undergo any form of processing involving the use of chemicals or additives.

The potable water supply for the proposed temporary site office will be met by bottled water.

Water used for dust suppression, where possible, will be sourced from collection of surface water run-off and/or from an existing borehole on site. It should be noted that in Ireland rainfall occurs on a daily basis about 50% of the year. On days requiring dust suppression water usage would amount to 5 to 10 m³ per day.

The only raw materials used on site are diesel, hydraulic oil and engine oil which will be used to operate diesel powered plant on site.

As only a single bulldozer is used on site to place and grade the inert fill material and a mobile crushing unit served by a loading shovel used to produce secondary aggregates the quantities of fuel oil used on site are relatively small. Other plant on machine serving the sand and gravel pit includes a loading shovel, screening unit and on occasion a back-hoe excavator. The overall fuel use amounts to about 30,000 litres/annum). The mobile double skinned (integrated bunding) fuel bowser will have a capacity of c.750 litres and will be refueled weekly.

G.2 Energy Efficiency

Energy efficiencies will be achieved by using modern plant and equipment and servicing the equipment on a scheduled basis. Plant and equipment not in use will be shut off.

Table G.1 Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. N ^o or Code	Material/ Substance ⁽¹⁾	CAS Number	Danger ⁽²⁾ Category	Amount Stored (Litres)	Annual Usage (Litres)	Nature of Use	R ⁽³⁾ - Phrase	S ⁽³⁾ - Phrase
-	Fuel - Diesel	068334-30-5	-	750	30,000	Plant & Machinery	R40 R51/53	S2 S36/37 S61

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- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. c.f. Article 2(2) of SI N^o 77/94
3. c.f. Schedules 2 and 3 of SI N^o 77/94

Attachment H

Materials Handling

<u>Sub-Section</u>	<u>Contents</u>
H.1	Waste Types & Quantities – Existing & Proposed
H.2	Waste Acceptance Procedures
H.2.1	Log Book Details
H.3	Waste Handling
H.3.1	Recovery of Soils
H.3.2	Recovery of Construction Materials
H.4	Waste Arisings
Tables	
H.1(ii)	WASTE - Other Waste Recovery/Disposal

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H.1 Waste Types & Quantities – Existing & Proposed

Restoration of the active pit workings is at present subject to compliance with the existing WMP 30/2001B.

The phased scheme for final restoration of the area is shown by Figure B.2.4. The volume of material required to be imported to the site to complete the proposed restoration scheme has been calculated (using the Digital Terrain Modelling Software Package LSS) and is shown below.

It is proposed that that the void space will be filled within 1 to 5 years (subject to market conditions).

Volume of Void Space Remaining at Thornberry Site, Kill, Co. Kildare

Phase	Void Space m ³	*Compacted Volume m ³	**tonnes
1	90000	100000	200000
2	90000	100000	200000
Totals	180000	200000	400000

Notes:

* An approximate settlement factor of 10% has been assumed following placement of materials.

** Assumes density of imported soils as 2 tonnes/m³

The nature of the development is the continued phased restoration of a sand and gravel pit using imported inert soils, stone and recovery of clean construction and demolition waste. It is estimated that between 8,000 to 40,000 tonnes per annum (subject to market conditions) of inert construction and demolition waste will be recovered at the facility for the duration of the restoration works. Recovered material will be used for internal haul roads and/or dispatched offsite. Currently this material is being used at the neighbouring Arthurstown Landfill Facility.

Further details with respect to the type of materials including European Waste Catalogue code references are provided in the following table Table H.1(ii). No other waste types shall be accepted or recovered at this facility.

TABLE H.1(ii) WASTE - Other Waste Recovery/Disposal

Waste material	EWC Code	Main source ¹	Quantity		On-site recovery/disposal ² (Method & Location)	Off-site Recovery, reuse or recycling (Method, Location & Undertaker)	Off-site Disposal (Method, Location & Undertaker)
			Tonnes / month	m ³ / month			
Concrete	17 01 01	Site Clearance	666 - 3,340	333 - 1,670	Will be used to construct haul roads and hardstanding areas on site and/or processed for secondary aggregates As Above	Not Applicable	Not Applicable
Bricks	17 01 02	Site Clearance				Not Applicable	Not Applicable
Tiles & Ceramics	17 01 03	Site Clearance			As Above	Not Applicable	Not Applicable
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07	Site Clearance			As Above	Not Applicable	Not Applicable
Track ballast other than those mentioned in 17 05 07	17 05 08	Site Clearance			As Above	Not Applicable	Not Applicable
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04	Site Clearance			As Above	Not Applicable	Not Applicable
Soil and stones other than those mentioned in 17 05 03	17 05 04	Site Clearance	6,670 – 33,340	3,335 - 16,670	Used to restore sand & gravel pit workings	Not Applicable	Not Applicable
Dredging spoil other than those mentioned in 17 05 05	17 05 06	Site Clearance			Used to restore sand & gravel pit workings	Not Applicable	Not Applicable

1 A reference should be made to the main activity/ process for each waste. 2. The method of disposal or recovery should be clearly described and referenced to Attachment H.1

H.2 Waste Acceptance Procedures

Materials to be recovered will only be accepted from approved contractors who are aware of the need for and who undertake strict segregation and sorting of waste prior to transporting it to the application site;

Typically loads of up to 9 cu.m will be imported to site. Only hauliers with the appropriate Waste Collection Permits will be accepted.

All truck loads entering the site will be given a preliminary visual inspection on entering the site. If the material is not considered acceptable the haulier is refused entry and directed to return to the producer and/or an appropriate Waste Management Facility.

Any Contractor who persistently carries unacceptable waste to the application site will be denied further use of the facility.

Details of all truckloads entering the site will be entered into a logbook maintained by the operator (Refer to Attachment H.2.1).

A designated internal haul road will be maintained to direct site traffic to the tipping area.

Accepted materials will be subject to a second inspection after each load is tipped. Should a load of material indicate contamination of non inert material on inspection, the material is reloaded and the driver instructed to remove the load offsite to an approved facility and/or return to the producer.

Quarantine

Occasionally a load will contain minor contaminants (e.g. plastics, rebar, wood and paper). These items are removed on inspection by a site operative and in a designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate disposal facility.

H.2.1 Log Book Details

Date	Company	Origin	Soil	C&D	Permit No.	Reg	Time	Load

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H.3 Waste Handling

H.3.1 Recovery of Soils

Following the second inspection the material will be accepted and placed within the restoration (placement by bulldozer) area or in the case of topsoil placed in temporary storage awaiting final placement.

The lands are to be restored to agricultural use by importation and recovery of inert materials in accordance with a phased restoration scheme. Designated internal haul roads are used to direct site traffic to the current tipping area. A bulldozer is used to appropriately grade and compact the material to the desired profile as shown by the detailed plans and sections (Refer to Figures B.2.4 and B.2.5). Typically the soil is placed in 2-3 metre lifts with fill slopes of a safe angle of repose of 1:2.

It is proposed to reclaim the lands to a condition / gradient suitable for agricultural. Good quality imported soil will be conserved wherever possible to provide the subsoil/top-soil capping. These topsoil's/subsoil's will be handled under dry conditions to minimise compaction. For the purpose of restoration to agricultural the restored soil profile (capping) shall comprise 300mm topsoil over 200-1350mm of subsoil.

Progressive restoration involving grass seeding of restored area's shall be carried out on a staged basis to reduce the effects of soil erosion, windblown dust, to aid ground stabilisation and as an effective means of weed control. On completion of each phase of development final restoration including grading, seeding and landscaping will be carried out. Final restoration is dependent on the availability of good topsoil/subsoil and subject to suitable weather conditions. In order to allow for continuity of operations it is necessary to have a certain overlap between phases. The final contours and topography for the site is shown by the Final Landform Plan Figure B.2.4 and Cross Sections B.2.5.

H.3.2 Recovery of Construction Materials

Clean construction and demolition waste will either be placed directly on haul roads or temporarily placed in storage awaiting recovery.

Recovery and re-cycling activities at the application site will involve tipping of previously stockpiled 'unprocessed' material into a mobile crushing & processing plant using a front-end loader (Refer to Figure D.1.1). Material produced by the plant will then be transported by front-end loader to 'processed' stockpiles.

Recovered material will be used for internal haul roads and/or dispatched offsite. Currently this material is being used at the neighbouring Arthurstown Landfill Facility.

No sorting of materials other than separation of rebar from concrete will be undertaken on site as all material will be sorted and segregated at source before being brought to the application site. Rebar (reinforced steel) separated from concrete will be stored in the designated quarantine area awaiting removal off-site by a licensed scrap merchant.

H.4 Waste Arisings

The applicant will endeavour to visit the construction sites to ensure materials are being properly sorted and segregated at source.

A licensed waste collection contractor will be appointed as necessary to remove any canteen waste requiring recovery/disposal to a licensed waste management facility.

Occasionally a load will contain minor contaminants (e.g. plastics, metal, wood and paper). These items are removed on inspection by a site operative and stored in the designated quarantine area pending removal offsite by a licensed waste disposal contractor to an appropriate recovery/disposal facility.

Waste oil products are stored within the existing container on site. Waste oils are disposed of by a licensed waste contractor and removed off site. All oil barrels and lubricants are stored on spill pallets/ spill trays. Spill kits are also maintained on site and the Company will put in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.

Details with respect to the appointed waste recovery/disposal contractor including waste collection permit number and destination (waste licence/permit register number, licensing/permitting authority) are maintained.