

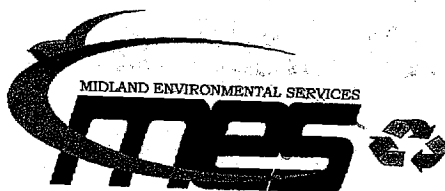
**Response To Request For  
Further Information  
(Copy One)**

Waste Licence Application  
214-1

**Applicant**

Ted O'Donoghue & Sons Ltd  
Knockpogue  
Waterfall  
Co. Cork

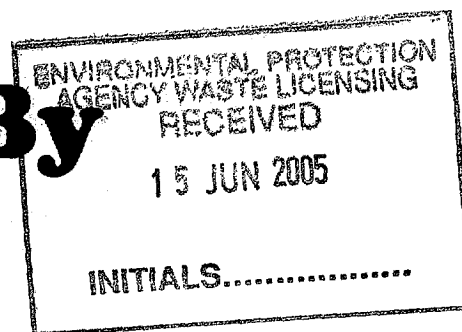
**Prepared By**



Dereen, Durrow, Co. Laois

**Date**

13<sup>th</sup> June 2005



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**A. Non-Technical Summary**

1. This summary should include the normal operating hours and days per week of the activity.

**This information is included in the revised non-technical summary document. See Attachment 1 for further details.**

2. Include details requested in Article 12(j) of the Waste Management (Licensing) Regulations as amended.

**This information is included in the revised non-technical summary document under Section J. See Attachment 1 for further details.**

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## **B. General**

1. Submit a confirmation letter from the planning authority that an EIS was not required for the increase in waste quantities proposed for the site.

**A letter was issued to the Planning Authority on the 6<sup>th</sup> December 2004 regarding the application by Ted O'Donoghue & Sons Ltd for a Waste Licence. Further to your letter of the 27<sup>th</sup> January 2005 another letter was sent by registered post to the Planning Authority on the 16<sup>th</sup> February 2005. When contacted the planning authority requested a fax to be sent through with the details of the request from the EPA and a copy of the previous letters submitted to the planning authority. This was sent on the 29<sup>th</sup> March 2005. A copy of the response from the Planning Authority is included in Attachment 2 along with copies of the letters and faxes submitted to the said authority.**

2. Clarify the stage of planning of the proposed administration building detailed in attachment F.1.4 and the external storage bays detailed in attachment D.1.q.

**The proposed administration building detailed in attachment F.1.4 refers to a temporary port-a-cabin, located beside the weighbridge, which is currently used as the on-site office. This port-a-cabin does not have planning permission as it was a temporary structure. Planning Permission has been applied for these temporary port-a-cabins for use as offices, staff canteen and locker facilities. Refer to the attached Drawing Number 1 for further details. Drawing Number 1100-03 has been amended to indicate the location of these buildings.**

**The proposed concrete external storage bays to be located at the north eastern end of the facility as detailed in attachment D.1.q, do not have planning permission. These bays will now not be constructed for the following reasons:**

- a. **Soil is now being collected in a roll on/off skip located inside the transfer station building as it is screened off from the mixed rubble with the trommel. This is then transferred directly to permitted soil recovery facilities and is not stored outside.**
- b. **Clean rubble from the picking station falls directly into a roll on/ off skip located within the transfer station building and this is then transferred directly to a permitted C&D recovery facility, where the stone is crushed for re-use.**
- c. **Timber waste is currently shredded externally into a forklift tipping bucket and the shredded timber is loaded directly into a 40 foot cubic yard roll on/off skips for transfer to authorised timber recyclers.**
- d. **Green waste is currently loaded directly into a 40 cubic yard roll on/off skip used before being transferred to authorised recyclers of green waste.**

**The bays at the south western end of the transfer station building will be retained. These will be used to store glass and are now covered with a temporary corrugated roof system to divert rain water. Planning permission is not required as the walls are temporary and below the threshold height of 1.8m.**

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3. Reassess fee submitted refer to Part 1 of the Third Schedule of the Waste Management (Licensing) Regulations, S.I. No. 395 of 2004. Note two fees are required if both disposal and recovery are applied for.

**The fees for this application have been reassessed. Find attached with this response a cheque for the value of €10,000 to cover the application for the recovery activities on site. Also find attached a copy of a letter requesting a refund of up to 50% of the application fees as outlined in the Waste Management (Licensing) Regulations 2004 section 45(1). Refer to Attachment 3 for details of the letter of request.**

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## C. Management of the Facility

1. Provide relevant details for deputy site manager Oliver O'Donoghue in table C.1.1.

Oliver O'Donoghue has been working in the family run waste business for the last twelve years. His responsibilities include operating the 360° Excavator loading the ejector trailers with residual waste for landfill. He ensures that all tipped waste on the floor of the transfer station is sorted through quickly and efficiently and any recyclables diverted to their designated storage areas or processed on the construction & demolition waste sorting line or shredded in the timber shredder. At the end of each working day Oliver ensures that all tipped waste is removed from the floor of the transfer station building, stored in their designated storage areas and that the area is cleaned down.

2. Given the increase in the waste quantities proposed for the site and the proposed hours of operation indicate operational staffing levels required to meet the increased capacity of the proposed waste activities.

Currently the existing site personnel are handling in the region of 15,000 tonnes per annum which works out at 288 tonnes per week or 58 tonnes per day. The proposal is to increase the handling capacity of the site from 15,000 tonnes per annum up to 23,000 tonnes per annum. This represents an increase of 8,000 tonnes per annum or 31 tonnes per day. Therefore the proposed average daily tonnage to be handled on site is estimated to be 89 tonnes per day.

On the following dates during 2004 the following daily tonnages were handled at the facility:

- 24<sup>th</sup> August → 90 Tonnes
- 25<sup>th</sup> August → 103 Tonnes
- 16<sup>th</sup> November → 91.74 Tonnes
- 23<sup>rd</sup> December → 109.90 Tonnes

This indicates that the current staff and facility can accept and process up to 90 tonnes per day or more if required to do so.

With regards the waste to be accepted at the facility this proposed increase in tonnage is equivalent to two refuse trucks per day delivering waste for disposal (based on a maximum tonnage of 16 tonnes per vehicle), or assuming 5 tonnes per skip this increase in tonnage is equivalent to 6 skip loads per day.

The average time it takes to load an ejector trailer with refuse for disposal and tie down with a net is forty five minutes, therefore to accept an extra 31 tonnes at the facility per day and load into the ejector trailer would take approximately 1.5 hours to complete.

It takes on average one hour to process four skips of material tipped onto the floor of the transfer station for recovery or disposal, therefore the extra time required to process six skips would be equivalent to 1.5 hours per day.

The level of staff required for the facility operation will also be dependent on the volume of material being processed. The operations of Ted O'Donoghue & Sons Ltd

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are dependent on material being delivered to the facility by other waste collectors in the Cork region. If any of these operators are to engage the services of other similar facilities then this would affect the operation of the facility by reducing the volume of material being processed at the facility.

Therefore, the same number of staff will be sufficient to meet with the increased capacity of the proposed waste activities for the reasons outlined above.

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## D. Infrastructure & Operation

1. Clarify if soil berm is outside the site boundary area submitted in Drawing No. 1, resubmit drawing.

**The soil berm is located outside the site boundary. Refer to revised Drawing No 1100-03 for details of the location of the soil berm.**

2. Submit information on the standard to which the bund integrity tests were conducted and information on the standard to which the bunds are constructed.

**The bunds were filled with water and left for twenty four hours. The level of the water was marked before and after and found to be the same height thus indicating that the bunds were not leaking. All bunds were inspected for cracks or damage during and after construction.**

**The standard to which the bund integrity tests were conducted was based on the CIRIA Report Number 163 "Construction of bunds for oil storage tanks." Refer to the attached confirmation on the standard used from Consulting Engineer, Pat O'Halloran in Attachment 4.**

3. Provide details of the storage unit proposed for the storage of gas bottles and the types of bottles and gases proposed.

**Gas bottles used in the workshop for repairs and maintenance i.e. acetylene and oxygen, are stored on a trolley with wheels and are chained to the frame of the trolley. Spare bottles will also be located in the repair and maintenance workshop building, and will be sited against the wall and chained to prevent them from falling over.**

**A six cubic yard chain lift skip will be used to store propylene gas bottles inadvertently tipped out onto the floor of the transfer station building when emptying skips collected for processing. These gas bottles are not accepted at the facility for processing but it may not be possible to identify them on visual inspection when the skip is first collected at the customer's premises. When the skip is tipped up at the facility the gas bottles are removed and stored in the designated skip for quarantine.**

4. Submit proposals with associated time frames for the provision of a wheel wash on site. Provision for the treatment of drainage from the wash should be included.

**A wheel wash will be installed on site whereby there will be a slope either side of the wheel wash working down towards a base with a grit trap in the middle of the base to gather soil, stone and mud. There will be angled steel bolted to the base of the concrete surface to vibrate the wheels on the vehicles passing through the wheel wash so that any mud or dirt would be shaken from the wheels. As the vehicles pass through the wheel wash the water level will rise. A gully at one end of the wheel wash will gather excess water and divert it through a series of tanks which will allow any suspended solids to settle to the bottom of the tanks. The water in the last tank will be pumped back into the wheel wash for reuse. The wheel wash will be constructed in accordance with the CIRIA Report Number 163. Refer to the attached Drawing Number 3 for details.**

The wheel wash will be visually inspected daily to ensure that there is sufficient water to wash the wheels of each vehicle delivering waste to and collecting from the facility. The water in the wheel wash will be pumped into the surface water drainage system where any hydrocarbons will be removed by the intercepting tank. This interceptor will be vacuumed at least once every six months by an authorised collector and taken to a suitable treatment plant for processing. All soil, mud and small stones will be removed from the base of the wheel wash and the base of the settling tanks and taken to permitted construction and demolition waste recovery facilities.

It is envisaged that the wheel wash will be installed on site by the middle of September of this year.

5. Provide time frame for the provision of surface water infrastructure on site, this infrastructure should include provision for the maintenance of impermeable concrete surfaces in all areas of the facility. Submit a separate drawing of the proposed surface water system to include locations of all oil interceptors. The drainage system should be designed to provide adequate protection from potential sources of pollution and storm water flows. *Refer to the EPA Draft BAT Guidance notes for the Waste Sector: Transfer Activities and the EPA Guidance Note on Storage and Transfer of Materials for Scheduled Activities in drafting your response.*

The proposed surface water infrastructure to be installed on site is as indicated on Drawing Number 4. It is proposed to commence the necessary on-site infrastructure works in July of this year, and to complete by the end of September of this year. Also refer to Attachment 5 for details of the report from O'Shea Leader, Consulting Engineers in Cork.

6. Provide time frame for the provision of a wastewater treatment system at the facility for the treatment of trade effluent arising on site. This effluent includes drainage from operational areas including the truck wash facility, wheel wash and runoff from soil, C & D, green waste and wood shredder areas. Your response should include detailed proposals and drawings.

A wastewater treatment system is not required on-site for the following reasons:

- All waste to be processed for disposal or recovery will be tipped within the transfer station building therefore all runoff from the tipped waste will be collected in the underground storage tank beneath the transfer station building.
- The external storage of soil and stones will not take place as this material is being stored in roll on/off skips housed within the transfer station building and taken direct to permitted recovery facilities.
- The green waste and the shredded timber will be stored in covered 40 cubic yard roll on/off skips and the timber will be shredded directly into a tipping skip which when full will be loaded into the 40 cubic yard roll on/off skip used to store the shredded timber.
- All metal will be stored in the 30 foot tipping trailer and designated chain lift skips.
- Washing of all vehicles will take place off site at Musgraves Truck Wash located off the Kinsale road roundabout in Cork City.
- The effluent from the wheel wash will be pumped through the on-site drainage system where the intercepting tank will remove any hydrocarbons from the water. This interceptor will be cleaned on a regular basis by an authorised collector and will be tankered off site for processing at a wastewater treatment facility.



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- **The temporary storage units for the glass will be covered to divert rain water direct into the surface water drainage system.**

7. Provide information on the capacity of the proprietary treatment unit proposed for the site and the proposed time frame for its installation.

**The proposed proprietary treatment unit for the office, canteen and toilet has a capacity of 3,500 gallons. It consists of two chambers, a primary activated sludge chamber of 2500 gallons and a secondary clarifier chamber of 1000 gallons. Planning permission has been applied for this facility and it is expected to have this installed by mid August 2005. Refer to Attachment 6 for further details of the proposed unit to be installed.**

8. Provide an assessment of the adequacy of the volume provided in the storage tank beneath the waste transfer building taking into account the increase in waste volumes proposed. Provide details on the current rates of effluent removal and its disposal route.

**The adequacy of the volume of the storage tank beneath the waste transfer station building is deemed to be adequate taking into account the increase in waste tonnages.**

**When the refuse trucks tip their waste onto the floor of the transfer station the waste material is loaded into the ejector trailers that evening. No waste is left on the floor of the transfer station overnight so as to allow any seepage of liquid into the underground storage tank. The ejector trailer or trailers are parked in the transfer station building overnight and collected the following morning.**

**The height of the effluent in the tank is now being monitored on a weekly basis and the level is recorded, details of which are maintained in the on-site office.**

**Regarding the current rates of effluent removal, there has been one removal of effluent to date from the underground storage tank. The contents have been pumped out from the underground tank to a 5000 gallon tanker located in the yard and this was then emptied by South Coast Transport for AVR Safeway. Approximately 10.42 tonnes of material was collected from the site for treatment and disposal. Refer to Attachment 7 for details of the effluent removed from the site.**

**This effluent has been generated since the underground tank has been installed since October of 2002. Therefore the total volume generated since the underground tank was installed is approximately 10.42 tonnes or 10,420 litres. This would equate to a monthly generation of 336 litres per month since the tank has been installed.**

**Given that the underground storage tank is approximately 19,000 litres in capacity the tank is deemed adequate given the increase in waste tonnages proposed.**

9. Provide timeframe and specifications for the construction of external storage areas for recovered soil, C & D rubble, green waste and chipped wood.

**These storage bays will not be constructed for the reasons outlined in response to query B.2**

10. Resubmit drawing No. 1100-03 to show location of proposed site facility office and truck wash areas.

**Find attached with this proposal a revised copy of Drawing Number 1100-03 indicating the location of the site facility office and canteen facilities.**

**There will be no washing of the vehicles on site therefore there is no truck wash area marked in on Drawing No. 1100-03.**

11. Give details of the storage capacity on site for each of the waste types proposed and the quantity to be accepted daily, provide information on the operating capacity of the facility on a daily basis ensuring sufficient daily duty and standby capacity is provided.

**The following Table 1 indicates the estimated storage capacity on site for each of the waste types proposed:**

**Table 1: Estimated Storage Capacity**

Waste Type	Storage Unit	No. of Units	Storage Capacity Per Unit	Total Storage Capacity
Soil	20 cu. Yard Roll On/Off Skip	1	15 Tonne	15 Tonnes
Rubble	20 cu. Yard Roll On/Off Skip	1	15 Tonne	15 Tonnes
Newsprint	30 cu. Yard Roll On/ Off Skip	1	10 Tonne	10 Tonnes
Plastic & Cardboard	40 foot Curtain Side trailer	1	20 Tonne	20 Tonnes
Metal	30 Foot Tipper Trailer	1	15 Tonne	15 Tonnes
	6 Cubic Yard Skip	3	5 Tonne	15 Tonnes
Timber	40 Cu. Yard Roll On/Off Skip	2	10 Tonne	20 Tonnes
Green Waste	40 Cu. Yard Roll On/ Off Skip	1	10 Tonne	10 Tonnes
Glass	10 Cubic yard Bay	3	5 Tonne	15 Tonnes
Residual Waste For Disposal	40 Foot Ejector Trailers	3	22 Tonne	66 Tonnes
<b>Total Storage Capacity</b>				<b>201 Tonnes</b>

**The estimated quantity of waste to be accepted daily is 89 tonnes per day based on the following:**

- Household → 50 Tonnes Per Day
- Commercial → 7 Tonnes Per Day
- Construction & Demolition → 29 Tonnes Per Day
- Industrial → 3 Tonnes Per Day

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The following is a breakdown of the estimated operating capacity of each of the individual operations at the facility:

a. Ejector Trailer Operation:

Taking into account that an ejector trailer can be loaded once every 45 minutes with a 360° Excavator, if this machine was to be operated over an standard eight hour day, 240 tonnes of residual waste for landfill could be accepted at the facility on a daily basis for transfer to other landfill facilities.

b. Trommel & Picking Station Operation:

The trommel and picking station for mixed construction and demolition waste is capable of a throughput of 20 tonnes per hour. If this system was to be operated over a standard eight hour day then 160 tonnes per day could be accepted at the facility on a daily basis for processing.

c. Skip Sorting Operation:

It is estimated that four skips tipped onto the floor of the transfer station building can be sorted and separated, into the individual waste streams, every hour. Over a standard eight hour day, if the average skip weighs five tonne, then a total of 20 tonnes per hour can be handled at the facility or a total of 160 tonnes per day.

d. Baler Operation:

The baler has an operating capacity of 500 kilos per hour. If the baler is operated over an eight hour day then approximately 4 tonnes per day of cardboard or plastic can be baled at the facility.

e. Shredder Operation:

The shredder is capable of processing 20 tonnes per hour. If the shredder is operated over an eight hour day then approximately 160 tonnes per day of timber can be shredded for recycling.

The quantities outlined above are based on each individual process and the volumes that they can process operating on its own, over a typical eight hour day. When these quantities are analysed in comparison to the standard operating day the following is the actual total operating capacity at the facility:

- Household refuse is generally collected from the customers premises during the day, therefore this waste will only arrive on site from 1pm onwards. Allowing for a 1 hour break for lunch there is approximately 3 hours left to load the ejector trailers. Therefore working on the processing capacity in a) above only 4 ejector trailers will be loaded during this period, equating to 96 tonnes per day.
- In order for the operations outlined in b, d and e above to work the mixed material delivered to the facility in skips must first be sorted when tipped onto the floor of the transfer station, as outlined in c) above. Therefore this activity will limit the volume of material to be processed by operations b, d and e. This operation is generally carried out during the first part of the

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**working day i.e. typically from 8am to 1pm. This gives five hours in which to sort and process the material, and so using the quantities outlined in c) above 100 tonnes of material per day can be processed.**

**Based on these comparisons of the individual operating processes to the typical working day, the total operating capacity of the facility is calculated to be 196 tonnes per day.**

12. Outline what constitutes 'green waste' in your application.

**Green waste includes items such as tree branches, small trees, shrubs, hedges, bushes and stumps of trees. These items would typically arrive out at the site from one off household skips used to clear items from the garden.**

13. Provide details of the proposed disposal route for tyres collected on site and the storage capacity available.

**All waste tyres generated from the companies vehicles are stored next to the repair and maintenance workshop. These are replaced by Hanover Tyres as part of the companies tyre preventative maintenance contract.**

**Any tyres extracted from the tipped waste at the facility are stored in the processing building. There is capacity to store ten tyres in total inside the transfer station building and when this area is full the facility manager organises them to be collected by Crumb Rubber Limited in Dundalk for shredding and further processing.**

14. Provide details of the proposed disposal route for organic material collected on site the storage capacity available and location. Provide information on the length of time this material will be held on site before disposal.

**Organic Material will include timber waste i.e. pallets, chip board, and green waste i.e. trees, bushes, hedges. The timber will be shredded on-site and will be sent to Finsa Forest Products in Scariff, County Clare for recycling. All green waste will be placed into a forty cubic yard skip and will be delivered to CTO Environmental at the Kinsale road roundabout for shredding and composting. Any putrescable waste delivered to the site will generally be mixed with other household and commercial waste delivered to the facility. This is loaded direct into the ejector trailers bound for Mulleadys in Longford. This waste will be held on site for no longer than 48 hours.**

15. Provide figures for the number of vehicle movement on a daily basis that will result from the proposed waste activities and the number of vehicles the site infrastructure can cater for.

**The following vehicles movements are based on movements at the facility on the 23<sup>rd</sup> of December 2004 when 101.92 tonnes of waste was accepted into the facility and 88.56 tonnes was transported off site for disposal or recovery. Refer to Attachment 8 for further details.**

**Looking at the waste in records in further detail, there was a total number of 40 vehicle movements into and out of the facility. Taking the waste out details into account, a total number of 20 vehicle movements were recorded. Add to this a**

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further total of 14 vehicle movements for employees working at the facility, the total number of vehicle movements that can typically be expected from the activity is 74 per day.

As indicated on Drawing Number 1100-03, there are 6 waste vehicle parking spaces provided for the on-site vehicles and approximately 10 car park spaces provided for staff and visitors. These car-park spaces and waste vehicle parking spaces will be sufficient for the companies staff, visitors and waste vehicles. A significant majority of the vehicles are those from other waste companies delivering waste too and collecting waste from the facility.

Consent to publish in this report is given for the use of the information contained herein for the purposes of the project only. No other use is permitted without the written consent of the author.

## E. Emissions

1. Complete Table E.2 (i) and (ii) of the application and reassess details in attachment E.2, both should reflect changes as a result of response to question D.5 and 6 above.

**Tables E.2(i) and E.2(ii) are included in Attachment 9.**

**There will be one point emission to surface water (land drain) from the waste management facility. There is no emission to land drain from the site at present as the site infrastructure to direct surface water run-off is not yet in place.**

**Table E.2 Surface Water Emissions**

<b>Emission Ref</b>	<b>Location</b>	<b>Composition</b>	<b>Frequency</b>	<b>Sampling proposed</b>
<b>SW1</b>	<b>Discharge downstream of hydrocarbon and silt interceptor unit and flowing to land drain.</b>	<b>Treated surface water run-off No List I or II substances are expected</b>	<b>Constant</b>	<b>Standard methods acceptable to the EPA</b>

**Only the following substances listed in the Schedule of the EPA (Licensing)(amendment) Regulations 2004 (S.I. No. 394 of 2004) are expected to be included in the emissions to surface water from the waste management facility. The levels of these substances will be insignificant due to effective treatment technologies employed.**

- **Materials in suspension (suspended solids in treated effluent)**
- **Substances which contribute to eutrophication (in particular, nitrates and phosphates) in treated effluent**
- **Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.) i.e. treated effluent.**

**Details on emissions from the on-site surface water drainage system is as follows:**

**E.2.1 Drawings with dimensions of the surface water drainage system and the interceptors.**

**See specification drawings attached from O'Shea Leader (Consulting Engineers Ltd)  
Drawing numbers : 05-050-01 and 05-050-02 attached to this document.**

**E.2.2 Catchment areas of the site for water run-off.**

**See specification drawings attached from O'Shea Leader (Consulting Engineers Ltd)  
Drawing numbers : 05-050-01 and 05-050-02 attached to this document.**

### E.2.3 Meteorological data for the site including rainfall intensities and duration's.

According to the Cork County Waste Management Plan 1999, the southwest coast of Cork is the mildest part of Ireland, with average January temperatures of 7°C (5°C in the northeast of the country) and July temperatures averaging 16°C. Annual rainfall is 2,000mm on the mountains of the west and 1,000mm in the southeast.

The tables below gives some historical rainfall and temperature data for Cork Airport (approximately 7.5 km east of the site and the closest meteorological station to the site at Knockpoge, Waterfall, Co. Cork).

#### Total rainfall for Cork Airport;

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual (mm)
2004	106.6	78.8	114.0	65.3	46.2	100.0	51.9						562.8
2003	76.0	78.6	70.3	126.7	100.3	115.5	96.2	23.1	55.4	27.8	125.0	72.8	967.7
mean	148.3	115.9	97.1	70.2	84.1	67.7	65.4	89.9	97.4	125.8	108.7	136.5	1206.9

#### Mean temperatures for Cork Airport;

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual (°C)
2004	6.1	5.7	7.1	8.3	11.4	14.2	14.1						9.5
2003	5.3	5.8	7.5	9.2	10.2	13.3	15.1	16.2	13.7	9.8	8.2	6.4	10.1
mean	5.1	5.1	6.3	7.9	10.3	13.0	14.9	14.6	12.8	10.4	7.2	6.1	9.5

After reviewing the above annual rainfall statistics for Cork Airport and taking into account the historical rainfall data, one may assume that the average annual rainfall at the Ted O'Donoghue and Sons Ltd Waste Disposal site is approximately 900mm.

Similarly, taking into consideration the data from Cork Airport, one can estimate that the January mean daily air temperature for the site is approximately 5.7 °C while the July mean daily air temperature is 14.6°C.

The prevailing winds in the Cork region are a mixture of north-west, west, south-west and southerly in origin with approximately 0.6% of the wind defined as calm.

### E.2.4 Potential points of contamination/areas most at risk

All surface water run-off from outside areas of the site will be diverted through a hydrocarbon and silt interceptor unit prior to discharge to the land drain at the rear of the materials recovery facility. This will be the only discharge point from the facility to land drain. See Drawing numbers : 05-050-01 and 05-050-02 attached to this document.

There will be no wastewater treatment system at the facility for the treatment of trade effluent arising on site. The reasons for this are stated in D6 of this document. There will be no truck washing proposed at the facility. All vehicle washing will occur off-site (see D6 above).

All firewater retention on-site will be adequate for the overall size and nature of operations at the facility. A firewater retention survey has been carried out for the proposed facility and is detailed in attachment J to this document (O'Shea Leader (Consulting Engineers Ltd)).

2. Complete Table E.5(i) of the application.

This table has not been completed due to the following reasons.

- A noise survey was carried out at the Ted O'Donoghue and Sons Ltd Waste Disposal site on the 29<sup>th</sup> of July 2004 as part of the waste license application. Noise emissions from site operations were not deemed to have a nuisance effect on the surrounding environment. Furthermore, the nature and future scale of site operations is not expected to have an overall increase in noise emissions in the area. Noise monitoring details are included in attachment F of the waste licence application.
  - Most items of plant for waste processing (i.e. proposed trommel, baler, 360<sup>o</sup> excavator) will all be located inside the waste transfer station building.
  - The site boundaries will remain as high berms and screened sufficiently with foliage to mitigate any noise and visual aspects from the waste management site.
  - Waste acceptance, tipping and sorting all occurring inside the transfer station building. The roller shutter door of this building will be full enclosed during trommelling. All waste sorting, trommelling, baling, shredding and moving will occur inside this building.
  - All items of plant for waste processing will only be operated on an intermittent basis and not constantly over a typical working day (e.g. the shredded will not be running for 8 hours a day constantly).
3. Provide specific details on control measures for dust emissions as a result of timber shredding and also from the storage of soil, C & D and any other external dusty waste piles refer to the EPA *Draft BAT Guidance notes for the Waste Sector: Transfer Activities* in drafting your response.

Timber which is picked out of the tipped waste in the transfer station building is placed into the hopper of the timber shredder. When the hopper is full the timber is shredded directly into a forklift tipping skip which is then loaded into the 40 cubic yard roll on/off skips. Shredding of the timber waste is only carried out when wind levels are low and all shredded timber immediately tipped into the roll on/off skips thus eliminating the storage of dusty waste piles. The skips are emptied when full so as to prevent the build up of dusty wastes on site.

Separated soil and stones are now stored in roll on/off skips within the waste transfer station building and are emptied at authorised recovery facilities for soil and stones. As these wastes are now stored internally there will be no dust blows.



## F. Control & Monitoring

1. Provide a timeframe for the installation of the Mist-Air; dust suppression and odour absorption system proposed.

**It is proposed to install the Mist-Air, dust suppression and odour absorption system by the end of October 2005.**

2. Provide details of the storage arrangement for hazardous and flammable chemicals in the workshop/garage building on site.

**All hazardous and flammable liquids used in the workshop / garage will be stored in a flame proof safety cabinet. All flammable gas cylinders being used will be securely stored in a mobile unit and all spare gas cylinders will be stored up against the wall of the workshop and secured with a chain.**

3. Provide details of the location for the proposed bunded waste quarantine area for liquid waste on site.

**Liquid waste quarantined as a result of inspection of waste tipped onto the floor of the transfer station building will be placed into a 210 litre UN approved barrel located in the quarantine area inside the transfer station building. The location is indicated on Drawing No. 5 (1100-01) "Floor Plans." The barrel will be sited on suitable spill tray which will hold 110% of the volume of the largest container.**

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## I. Existing Environment

1. Provide an assessment of the quality of the Curraheen River upstream and downstream of the entrance of the drain from the site.

ENVIROCO Management Ltd staff visited the site on the 1<sup>st</sup> March 2005 and sampled the Curraheen River (grab samples) upstream and downstream of the entrance of the land drain onto the river. The surface water sampling locations are illustrated on the attached Map I.Rev a, located in the Drawing Appendicies . The analytical data for the water samples are tabulated below in Tables 1.1.-1.5. and are compared with the 1989 Surface Water Regulations.

**Table 1.1 Inorganic Chemical Analysis of Surface Water Samples**

Parameter	Upstream	Downstream	Surface water
	of site SW2	of site SW3	Regulations (1989) Mandatory value
pH (pH units)	6.86	6.87	5.5-8.5
Conductivity (µS/cm)	284	258	1,000
Biological Oxygen Demand (BOD) (mg/l)	< 2	< 2	5-7
Chemical Oxygen Demand (COD) (mg/l)	< 15	< 15	40
Dissolved Oxygen (mg/l)	7.9	8.8	Varies e.g. a value of 9.2 mg/l at 20°C is acceptable to support fish life
Chloride (mg/l)	20	20	250
Nitrate as NO <sub>3</sub> (mg/l)	33.1	27.4	50.0
Nitrite as NO <sub>2</sub> (mg/l)	0.05	0.07	NRG
Ortho phosphate as PO <sub>4</sub> (mg/l)	< 0.03	< 0.03	0.5
Sulphate (mg/l)	13	17	200
Ammoniacal Nitrogen As N (mg/l)	< 0.2	< 0.2	0.2 – 4.0*
Sodium (mg/l)	10.0	10.4	NRG
Potassium (mg/l)	2.8	1.4	NRG
Calcium (mg/l)	24.58	19.15	NRG
Magnesium (mg/l)	6.90	6.67	NRG
Total Suspended Solids (mg/l)	< 10	< 10	50

<b>Total Alkalinity as CaCO<sub>3</sub> (mg/l)</b>	<b>130</b>	<b>180</b>	<b>NRG</b>
<b>Total Organic Carbon (TOC) (mg/l)</b>	<b>3</b>	<b>3</b>	<b>NRG</b>

NRG\* : No Reference Given

**Table 1.2 DRO and Phenol Analysis of Surface Water Samples**

<b>Parameter</b>	<b>Upstream of site SW2</b>	<b>Downstream of site SW3</b>	<b>Surface water Regulations (1989) Mandatory value</b>
	<b>Diesel Range Organics (µg/l)</b>	<b>&lt;10</b>	<b>&lt;10</b>
<b>Mineral Oils (µg/l)</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>
<b>Total Phenols (mg/l)</b>	<b>&lt; 0.01</b>	<b>&lt; 0.01</b>	<b>NRG</b>

**Table 1.3 Metal Analysis of Surface Water Samples**

<b>Parameter</b>	<b>Upstream of site SW2</b>	<b>Downstream of site SW3</b>	<b>Surface water Regulations (1989) Mandatory value</b>
	<b>Copper (µg/l)</b>	<b>&lt; 5</b>	<b>&lt; 5</b>
<b>Iron (µg/l)</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>200-2000</b>
<b>Zinc (µg/l)</b>	<b>5</b>	<b>&lt; 5</b>	<b>3000-5000</b>
<b>Mercury (µg/l)</b>	<b>&lt; 0.05</b>	<b>&lt; 0.05</b>	<b>1.0</b>
<b>Lead (µg/l)</b>	<b>&lt; 5</b>	<b>&lt; 5</b>	<b>50</b>
<b>Manganese (µg/l)</b>	<b>6</b>	<b>6</b>	<b>50-1000</b>
<b>Nickel (µg/l)</b>	<b>&lt; 10</b>	<b>&lt; 10</b>	<b>NRG</b>
<b>Chromium (µg/l)</b>	<b>&lt; 1</b>	<b>&lt; 1</b>	<b>50</b>

NRG\* : No Reference Given

**Table 1.4 Microbiological Analysis of Surface Water Samples**

Parameter	Upstream of site SW2	Downstream of site SW3	Surface water Regulations (1989) Mandatory value
	Faecal Coliforms (mpn/100ml)	0	14
Total Coliforms (mpn/100ml)	15	> 100	5,000-100,000

1.2 After discussions with Cork County Council, it was confirmed that the Curraheen River flows in a general north east direction into Cork City and eventually feeds into the River Lee at the city. In the absence of any data from Cork County Council regarding the quality of the Curraheen River, a local assessment can be made from the above values.

As can be seen from tables 1.1.-1.5. above, all parameters measured were within the Surface Water Regulations.

2. Provide analysis of the discharge from the surface drain presently on site at the point of entrance to the land drain.

2.1 ENVIROCO Management Ltd staff visited the site on the 1<sup>st</sup> March 2005 to sample the surface water coming from the site. However, it was not possible to establish baseline water quality data due to the fact that the land drain had effectively dried up at that location.

2.2 Therefore, a surface water sample was taken from the actual land drain downstream of the point of entrance of the surface drain at the site. The land drain sampling location is shown on the attached Map I.Rev a. The analytical data for the water sample is tabulated below in Tables 2.1.-2.5. and is compared with the 1989 Surface Water Regulations.

**Table 2.1 Inorganic Chemical Analysis of land drain sample**

Parameter	Land Drain SW1	Surface water Regulations (1989) Mandatory value
	pH (pH units)	5.66
Conductivity (µS/cm)	301	1,000
Biological Oxygen Demand (BOD) (mg/l)	2	5-7
Chemical Oxygen Demand (COD) (mg/l)	< 15	40

<b>Dissolved Oxygen (mg/l)</b>	<b>8.2</b>	<b>Varies e.g. a value of 9.2 mg/l at 20°C is acceptable to support fish life</b>
<b>Chloride (mg/l)</b>	<b>21</b>	<b>250</b>
<b>Nitrate as NO<sub>3</sub> (mg/l)</b>	<b>27.9</b>	<b>50.0</b>
<b>Nitrite as NO<sub>2</sub> (mg/l)</b>	<b>0.07</b>	<b>NRG</b>
<b>Ortho phosphate as PO<sub>4</sub> (mg/l)</b>	<b>&lt; 0.03</b>	<b>0.5</b>
<b>Sulphate (mg/l)</b>	<b>50</b>	<b>200</b>
<b>Ammoniacal Nitrogen As N (mg/l)</b>	<b>&lt; 0.2</b>	<b>0.2 – 4.0*</b>

**Table 2.1 Inorganic Chemical Analysis of land drain sample (Cont'd)**

<b>Parameter</b>	<b>Land Drain SW1</b>	<b>Surface water Regulations (1989) Mandatory value</b>
	<b>Sodium (mg/l)</b>	<b>11.0</b>
<b>Potassium (mg/l)</b>	<b>0.4</b>	<b>NRG</b>
<b>Calcium (mg/l)</b>	<b>23.08</b>	<b>NRG</b>
<b>Magnesium (mg/l)</b>	<b>7.59</b>	<b>NRG</b>
<b>Total Suspended Solids (mg/l)</b>	<b>&lt; 10</b>	<b>50</b>
<b>Total Alkalinity as CaCO<sub>3</sub> (mg/l)</b>	<b>140</b>	<b>NRG</b>
<b>Total Organic Carbon (TOC) (mg/l)</b>	<b>5</b>	<b>NRG</b>

NRG\* : No Reference Given

**Table 2.2 DRO and Phenol Analysis of land drain sample**

<b>Parameter</b>	<b>Land Drain SW1</b>	<b>Surface water Regulations (1989) Mandatory value</b>
	<b>Diesel Range Organics (µg/l)</b>	<b>&lt;10</b>
<b>Mineral Oils (µg/l)</b>	<b>&lt;10</b>	<b>&lt;10</b>
<b>Total Phenols (mg/l)</b>	<b>&lt; 0.01</b>	<b>NRG</b>

**Table 2.3 Metal Analysis of land drain sample**

Parameter	Land Drain	Surface water
	SW1	Regulations (1989) Mandatory value
Copper (µg/l)	< 5	50-1000
Iron (µg/l)	< 1	200-2000
Zinc (µg/l)	6	3000-5000
Mercury (µg/l)	< 0.05	1.0
Lead (µg/l)	< 5	50
Manganese (µg/l)	7	50-1000
Nickel (µg/l)	< 10	NRG
Chromium (µg/l)	< 1	50

NRG\* : No Reference Given

**Table 2.4 Microbiological Analysis of land drain sample**

Parameter	Land Drain	Surface water
	SW1	Regulations (1989) Mandatory value
Faecal Coliforms (mpn/100ml)	0	1,000-40,000
Total Coliforms (mpn/100ml)	3	5,000-100,000

**2.3 The water quality data for the land drain shows that the surface water body is in compliance with the Surface Water Regulations.**

3. Provide information on any Natural Heritage Areas and Special Protection Areas within 5km of the site confirm that there will be no significant environmental emissions from the facility, which could give rise to adverse effects in these sites.

3.1 A desk study of the Natural Heritage Areas and Special Protection Areas of Cork was conducted based on the contents of the Cork County Development Plan 2003. The results of this study are tabulated below:

**Table 3.1 Proposed Natural Heritage Areas (pNHA's) in the Vicinity of Ted O'Donoghue and Son's Ltd Site Co. Cork.**

Dúchas Site Code	Site Name	Approx. Distance from Proposed Site
pNHA- 1249	Ballincollig Cave	4.25 km
pNHA- 0094	Lee Valley	6.8 km
pNHA- 0103	Shoumagh Valley	8.4 km
pNHA- 1740	Bandon Valley above Inishannon	8.9 km
pNHA- 1081	Cork Lough	9.55 km
pNHA- 1794	Blackwater Valley (Kilcummer)	9.6 km
pNHA- 1039	Blarney Castle Woods	10.3 km
pNHA- 1857	Blarney Bog	10.8 km
pNHA- 1046	Douglas River Estuary	12.6 km
pNHA- 1990	Owenboy River	14.75 km
pNHA- 1082	Dunkettle Shore	15.9 km
pNHA- 1054	Glanmire Wood	15.9 km
pNHA- 1979	Monkstown Creek	16.75 km
pNHA- 1966	Minane Bridge Marsh	17.2 km
pNHA- 1066	Lough Beg (Cork)	20.0 km

**Table 3.2 Special Areas of Conservation (SAC's) in Cork County**

Dúchas Site Code	Site Name	Approx. Distance from Proposed Site
21	Old Head of Kinsale	>25 km
22	Ballycotton Bay	>30 km
23	Ballymacoda Bay	>30 km
28	Blackwater Estuary	>30 km
30	Cork Harbour	12.6 km
66	The Bull and the Cow	>30 km
94	River Blackwater Callows	>30 km
95	Kilcolman Bog	>30 km
109	The Gearagh	>30 km
cSAC 1058	Great Island Channel	19.3 km

- 3.2 As can be seen from the above tables, only one pNHA (Ballincollig Cave) and no SACs are within 5 km of the proposed site. The Ballincollig cave pNHA is approximately 4.25 km north of the proposed site at Knockpoge, Waterfall. This particular protected area is not visible from the proposed site.
- 3.3 Ted O'Donoghue and Sons Ltd Waste Disposal existing waste management facility is situated approximately 6.5 km from Bishopstown, south west of Cork City in a rural setting. The site itself is located behind the O'Donoghue family residence. The site comprises of an existing transfer station building, small workshop building (for routine maintenance of the waste collection vehicles), weighbridge and concrete storage bays. The surface is a mixture of hardstanding and concrete in places. An administration building is proposed for the site which will function as a reception, record keeping, canteen and toilets building. Further concrete storage bays and a fully concreted yard area are also proposed. The waste management site has been in operation for approximately 15 years. The site entrance is appropriate to the nature and scale of operations. Due to the size and nature of the proposed development, emissions (noise, dust, water, odour) from the operation of this facility by Ted O'Donoghue and Sons Ltd. will not result in the contravention of any relevant standard. Controls will be put in place to limit or eliminate the emissions and regular monitoring carried out to ensure that these control measures are working effectively. Hence, there will be no significant environmental emissions from the facility, which could give rise to adverse effects on the Ballincollig cave pNHA.

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## **J. Accident Prevention and Emergency Response**

1. Assess the adequacy of the fire fighting equipment on site taking account of the volumes and types of waste stored. Carry out an assessment to determine the capacity and adequacy of firewater retention on site in the surface water drainage system as proposed.

**The fire fighting equipment on the site was assessed by both Pat O'Halloran Consulting Engineer in conjunction with Allied Fire Protection, as well as O'Shea Leader Consulting Engineers Ltd.**

**The site was assessed for small scale fire fighting controls by both Pat O'Halloran and Allied Fire Protection. All fire fighting equipment is assessed once every three months by Allied Fire Protection. Their proposal after assessing the site was to install an additional six number "Mobile" 45 litre L.W units, complementary to the existing fire-fighting facilities. Three of these are to be located within the enclosed materials recovery facility and three in the open yard. Refer to Attachment 4 for details of the report.**

**O'Shea Leader assessed the fire fighting water supply provided by the 10,000 gallon fire water tank on site and have deemed that this tank is insufficient to cater for fire fighting on the premises. In consultation with Cork County Council a tank of the volume of 525,123 litres would be required to fight a fire on the site. The two existing fire hydrants installed on site will be maintained along with a pair of pumps (one backup) required to provide adequate pressure. Refer to Attachment 5 for details of the O'Shea Leader report and calculations.**

**Along with the proposed surface water system to be installed on site as outlined in section D part 5 of this report a fire water runoff tank with a capacity of 790 cu.m. will be required for retention of any fire water run-off generated from fighting a fire in the Materials Recovery Building. Refer to Attachment 5 for details of the O'Shea Leader report.**