

**ATTACHMENT E  
EMISSIONS**

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## E.1 Emissions to Atmosphere

The proposed waste management facility will be as follows:

- A waste management area for acceptance and processing of non hazardous municipal, commercial, industrial and construction and demolition waste. There will also be some acceptance and temporary storage of WEEE wastes.

There will be no point emissions to atmosphere from the waste management facility. However, fugitive atmospheric emissions will include wind-blown dusts and some odours from time to time at the municipal waste management area of the site only.

### E.1.1 Fugitive Dusts Emissions

These will occur at site boundaries at the municipal waste management area of the site. Table E.1.1 below gives a summary of the dust emissions from the proposed activity.

**Table E.1.1 Dust Emissions**

<b>Emission Ref</b>	<b>Location</b>	<b>Composition</b>	<b>Frequency</b>	<b>Sampling proposed</b>
A2-1	Site entrance / boundary	Windblown particulates	Mostly during summer and other dry weather periods	Dust deposition by Bergerhoff method
A2-2	Site boundary	Windblown particulates	As above	As above
A2-3	Site boundary	Windblown particulates	As above	As above
A2-4	Site boundary	Windblown particulates	As above	As above

It is expected that dust emissions from the site will be effectively controlled by proposed control measures described in section F.1.1.

### E.1.2 Fugitive Odour Emissions

Odours may arise from the municipal waste management area due to the handling of domestic waste or refuse waste which may contain organic fractions. Odours generally become a problem if residents take issue to certain smells. However, as detailed in attachment F.1.2 odours are not expected to be a problem with the site and historically have not been an issue with the operational site.

In summary odour emissions are not expected from the facility.

## E.2 Emissions to Surface Water

There will be 1 point emission to surface water (existing land drain) from the waste management facility. This is described as follows:

- The emission to surface water will be storm water run-off from the yard areas of the existing municipal waste management facility which will be directed via gullies outside Unit 3. This runoff passes through a silt trap and interceptor connected to a water attenuation tank before being discharged to the existing land drain passing along the north east of the site.

**Table E.2 Surface Water Emissions**

<b>Emission Ref</b>	<b>Location</b>	<b>Composition</b>	<b>Frequency</b>	<b>Sampling proposed</b>
SW2	Discharge point downstream of interceptor unit and attenuation tank from waste management site and flowing to land drain.	Treated surface water run-off No List I or II substances are expected	Constant	Standard methods acceptable to the EPA

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 on-site surface water collection systems are as follows:

### E.2.1 Drawings with dimensions of the surface water retention system and the interceptors at the waste management facility:

See specification Site Layout Plan.

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

See specification Drawing DWG01.

**E.2.3 Meteorological data for the site including rainfall intensities and durations**

The tables below give some rainfall and temperature data for Rosslare, the closest meteorological station (approximately 5 km North west of Kilrane) to the site.

**Total rainfall for millimetres for Rosslare:**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual (mm)
2005	59.1	39.1	49.6	109.1	53.6	38.5	126.8	30.8	69.7	138.7	82.0	56.5	853.5
2004	124.2	63.5	56.2	41.8	33.5	42.3	43.9	82.8	117.8	181.4	34.0	57.4	878.8
mean	94.9	69.6	67.2	55.9	55.4	50.7	50.6	70.9	71.9	94.9	97.6	97.6	877.1

**Mean temperatures in degrees C. for Rosslare:**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual (°C)
2005	7.8	6.1	7.9	9.0	11.2	14.7	16.0	16.1	14.9	12.9	8.5	7.6	11.1
2004	7.1	6.8	8.0	9.4	12.1	15.0	15.1	16.5	14.6	10.9	9.5	8.2	11.1
mean	6.1	5.9	6.8	8.3	10.5	13.2	15.0	15.0	13.6	11.4	8.2	7.0	10.1

After a review of available Met Eireann data it was concluded that the prevailing wind in the Wexford region (taken at Rosslare weather station) is southwesterly in origin, with west and southerly wind also featuring significantly. Approximately 0.5% of the wind is defined as calm at Rosslare.

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

All treated surface water run-off will be discharged to the open land drain passing through the middle of the site. This is the potential area most at risk from surface discharge contamination. However, due to the control measures proposed in attachment F.1.4 the risk of contamination at this location is minimal.

### E.3 Emissions to Sewer

Goff Recycling Ltd. do not discharge any effluent or sewage from the site to sewer. Currently there is no sewage infrastructure in place by Wexford County Council. Therefore, all domestic sewage generated on-site will be treated by a wastewater treatment system with a subsequent percolation area.

Consequently, there will be no discharge to sewer from the facility.

### E.4 Emissions to Groundwater

Presently there are no boreholes installed at the Goff Recycling Ltd. site. There are no private wells or boreholes within a 500 meter radius of the site.

All municipal water use is sourced from the mains supply.

Nevertheless, there will be 1 point emission to ground from the waste management facility (percolation area associated with the sewage waste water treatment plant).

**Table E.4 Ground Water Emissions**

Emission Ref	Location	Composition	Frequency	Sampling proposed
SL1	Percolation area to ground from the sewage treatment plant	Treated effluent from WWTP	Constant	None

It is not expected that the emission to ground will contain any of the following dangerous substances:

List I and List II of the Directive on the Protection of Groundwater Against Pollution Caused By Certain Dangerous Substances (80/68/EEC)

**LIST 1**

- Organo halogen, organo phosphorous and organo tin compounds.
- Carcinogenic or tetragenic substances.
- Mercury and cadmium compounds.
- Mineral oils, hydrocarbons and cyanides.

**LIST 2**

- 20 metalloids and metal compounds.
- Biocides and their derivatives not appearing on List 1.
- Substances having a deleterious effect on the taste or odour of groundwater.
- Toxic or persistent organic compounds of silicon.
- Inorganic phosphorous compounds.
- Fluorides.
- Ammonia and Nitrites.

**E.5 Noise Emissions**

There will be two point source noise emissions from the waste management facility.

**Table E.5 Noise Emissions**

Emission Ref	Location	Composition	Frequency	Sampling proposed
NE1	Waste baler inside Unit 3 building	Noise from waste processing	Intermittent	ISO 1996/1 - annual noise survey
NE2	Polystyrene shredder and baler in Unit 3	Noise from waste processing	Intermittent	ISO 1996/1 - annual noise survey

As stated in F.1.3 the overall noise output from the site is minimal due to the control measures specified in F.1.3. Most importantly, all municipal waste tipping and processing will occur inside Unit 3 at the site. All WEEE waste acceptance and storage will occur at Unit 2 building. Therefore section F.6 highlights that an annual environmental noise survey will be conducted at the waste management facility and will focus on noise measurements at boundary and noise sensitive locations.

A summary of all environmental emission locations are shown on the attached Figure E.1.1.

## **E.6 Environmental Nuisances**

### **E.6.1 Vermin/birds/flies**

The Goff Recycling Ltd site will function as a waste management facility. All incoming waste loads (especially municipal and similar commercial waste) to the site will be processed on a fast turnaround time and there will be no biodegradable or putrescible waste stored at the facility for long periods of time. The WEEE waste management area will comprise of a portion of Unit 2 building for acceptance and temporary storage of WEEE waste only and is not expected to have any environmental nuisances associated with it.

Attachment H of this waste licence application gives further operational details of the waste management facility.

### **E.6.2 Litter**

All municipal waste loads will be tipped inside Unit 3 and all WEEE waste will be accepted and stored in Unit 2 building. All baled waste will be stored indoors also as follows:

- Cardboard, paper, plastics, polystyrene, C&D materials and baled aluminium drink cans in Unit 2.
- Glass packaging (bottles) separated by colours and timber waste in Unit 3.
- Domestic waste loaded to ejector trailers and temporarily stored in Unit 3.
- WEEE waste in Unit 2 building.

Only minor amounts of ferrous and non ferrous metal scrap will be stored temporarily outside Unit 3 in a skip bin prior to off-site removal. This waste type does not tend to result in windblown litter.

## **E.7. Emissions to Humans**

### **E.7.1 Human Beings and Traffic**

Goff Recycling Ltd. have operated a waste collection and management service at the site since the start of 2004. The site is located in the townland of Ballygillane Big / Ballyknockan, St Helens, Kilrane, Rosslare Harbour, County Wexford approximately 2 km south west of Rosslare Harbour and 5 km south east of Rosslare town. The site is located in an existing business park (Kilrane Business Park).

The closest full time occupied dwelling to Goff Recycling Ltd site is the Murphy Household approximately 25m south west from the site perimeter. All residential dwellings within a 200metre radius of the existing waste management site have been identified in Table E.6.3 below and Map E.6.3. There have never been any complaints from the houses regarding Goff Recycling Ltd's waste management operations.

**Table E.6.3 All residential dwellings within 200metres of the existing waste management site**

Map E.6.3 ref no	Residence name	Distance from site (metres)
1	Holiday Home	50m south-west of the site
2	Murphy's House	25m south-west of the site
3	Holiday Home	25m south of site
4	Holiday Home	20m south of the site
5	Holiday Home	37m south-east of the site
6	Holiday Home	62m south-east of the site
7	Holiday Home	100m south-east of the site
8	Merigan's House	112m south-east of the site
9	Duggan's House	120m south-east of the site
10	Ferguson's House	60m east of the site

The immediate area surrounding Goff Recycling Ltd site is not used for recreation or amenity (i.e. the site is located in Kilrane Business Park). The closest sensitive building to the site is a national school located in Kilrane village (approx. 1km west of the site).

Effective site management should ensure that the waste management facility does not have a negative impact on the local residents in the area. Furthermore, proposed site developments described in attachment D will improve the visual aspects of the facility and provide better working conditions for site staff.

Current traffic movements to and from the site do not have a negative impact on the traffic volumes and traffic impacts in the area. All waste management vehicles entering and exiting the Goff Recycling Ltd site via the business park are in the direction of Kilrane village to the west. Kilrane village is on the N25 Wexford to Rosslare Harbour road. The vast majority of Goff Recycling Ltd waste management vehicles drive in the direction of Wexford town once having accessed the N25 from Kilrane.

## E.7.2 Human Beings and Waste Management

According to the National Waste Database Factsheet Series 2001-Municipal Waste issued by the EPA the average per capita household waste generation in 2001 was 375kg. A further investigation on a county basis showed that Wexford County had a household waste per capita value of 321kg in 2001 per year.



The total number of households in County Wexford in 2002 was 36,660, suggesting an average of 3 persons per household according to the Central Statistics Office (CSO).

**Table E.7.2a showing Household, Commercial and Industrial Waste Arising in the South East Region (2000).** Taken from the South East waste management plan ([www.wastenot.ie](http://www.wastenot.ie)). \*\* refers to Section 6.15 of the plan.

<b>Waste Arisings (tonnes per annum) to Landfill</b>				
<b>County</b>	<b>Household</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Litter &amp; Street Sweepings</b>
Carlow	19,800	5,740	4,661	1,030
Kilkenny	17,300	8,200	4,718	2,920
Tipperary (S.R)	28,100	3,700	14,000	2,400
Waterford Corporation	15,600	4,710	46,727	1,380
Waterford County	13,200	9,800	2,900	810
Wexford	36,600**	8,155**	8,155**	370
<b>Total</b>	<b>130,600</b>	<b>40,305</b>	<b>81,160</b>	<b>8,910</b>

**Table E.7.2b Waste production and management in Co. Wexford.** Taken from [www.wastenot.ie](http://www.wastenot.ie).

<b>Waste</b>	<b>Quantity (tonnes per annum)</b>
Landfilled	53,000
Household Waste Produced	36,600
Commercial Waste Produced	8,155
Industrial Waste Produced	8,155
Litter/Street Sweeping Waste Produced	100
Agricultural Waste Produced	79,500
Recycled	991
Composted	1,000

There is no restriction imposed on individual municipal waste producers in Wexford regarding the location at which they legally dispose of their waste. The individual producer or contractor may travel to another county to dispose of his/her waste subject to having the necessary permits in place. This situation is evident in County Wexford whereby some of the waste generated in the administrative area of Wexford County Council is recycled, treated and in some cases landfilled outside of the county.

As highlighted above in Tables E.7.2a and E.7.2b, with an increase in population there will be an increase in waste generation. The Goff Recycling Ltd facility will be able to manage and recycle this waste. Therefore the facility will have an overall positive impact on the population of County Wexford.

### E.7.3 Human Beings and Cultural Heritage Features

County Wexford has a wealth of features of archaeological, architectural, historical and/or artistic interest. The following sources were reviewed in order to assess these features in relation to the Goff Recycling Ltd site;

- Wexford County Development Plan (2001).
- No. 77 Discovery Series Maps compiled, printed and published by the Ordnance Survey, Phoenix Park, Dublin 8.
- Waste Management Plan for the South East Region 2002-2021

**The Protection of the Archaeological Heritage' Department of Arts, Heritage, Gaeltacht and the Islands, 1999 provides for the following:**

- Exercise a presumption in favour of avoidance of development impacts on the archaeological heritage and seek the preservation in situ of archaeological sites and monuments as the preferred option.
- Protect the following areas designated as being of Archaeological Potential in County Wexford

Bannow	Ferns	Mayglass
Clonmines	Ferrycarrig	New Ross
Courtown	Fethard-on-Sea	Old Ross
Edermine	Great Island	Taghmon
Enniscorthy	Gorey	Wexford

- Protect the special attributes of the historic landscape including battlefields.
- Facilitate public access to the National Monuments in State care and Local Authority ownership in the County.

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**The National Monuments Act, 1994 is summarized below:**

Section 12 (3) of the National Monuments act 1994 provides that where the owner or occupier (other than the Minister for Arts, Heritage, Gaeltacht and the Islands) of a monument or place included in the Record, or any person proposes, to carry out, or to cause or permit the carrying out of any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister for Arts, Heritage, Gaeltacht and the Islands of the proposal to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the work until two months after the giving of notice.

In support of these two policies above, Wexford County Council in their Development Plan states that they will:

- *Ensure that details of development proposals, including refurbishment and restoration works, within the Areas of Archaeological Potential and within close proximity to monuments as set out in **The Record of Monuments and Places** are referred on receipt to the Department of Arts, Heritage, Gaeltacht and the Islands (National Monuments Service) for observations and recommendations and to have regard to such observations and recommendations and those of other interested bodies before arriving at a planning decision;*
- *Ensure that local authority infrastructure development works including water, sanitary services, road realignment and new road construction within the Areas of Archaeological Potential as listed above or in close proximity to monuments as set out in **The Record of Monuments and Places** are referred to the Department of Arts.*

A desk review and examination of the above documents, confirmed that there are no known recorded archaeological finds or features of cultural importance on Goff Recycling Ltd site.

The following tables detail a full list of cultural heritage sites and features in close to the site.

**Table E.7.3. Features of Cultural Importance (Discovery Series Map No. 77) within a 3km radius of the site**

<b>Structures of Archaeological Interest Within 3km of Goff Recycling Ltd Site.</b>			
<b>Structure</b>	<b>Location (townsland)</b>	<b>Approx. Distance from Goff Recycling Ltd.</b>	<b>Map Ref. No. (yellow points)</b>
Castle	Ballyhire	0.95km	1
Church	Kilrane	1.05km	2
Castle	Ballell	1.5km	3
Holy Well	St Helens	1.7km	4
Church	St Helens	1.75km	5
Lifeboat station	Rosslare Harbour	2.0km	6
Ringfort	Rathdowney	2.3km	7
Ringfort	Ballytrend	2.35km	8
Graveyard	Tagoat	2.5km	9
Church	Rathmore	2.8km	10

The closest features and items of cultural heritage to the site from the **Wexford County Development Plan 2001** are listed in Table E.7.4 below:

**Table E.7.4 List of protected features, structures and buildings closest to Goff Recycling Ltd site sourced from the Wexford County Development Plan 2001.**

<b>Protected Features, Items, structures within the Area of Goff Recycling Ltd site, Kilrane, Rosslare, Co Wexford</b>			
<b>Dev Plan No.</b>	<b>Structure</b>	<b>Map Ref No. (red points)</b>	<b>Approx. distance from Goff Recycling Ltd Site. (km's)</b>
14 <sup>note 1</sup>	Ballygillane Little – 2 storey thatched farmhouse	1	1 km
11 <sup>note 2</sup>	Ballytrend – Early 19 <sup>th</sup> century neo-classical house	2	2 km
10 <sup>note 3</sup>	Kilscoran – First fruits church with west tower	3	2.25 km
25 <sup>note 4</sup>	Tagoat – Important Pugin Church of 1846	4	3.5 km
18 <sup>note 4</sup>	Lady's Island – Late 19 <sup>th</sup> Century gothic revival church	5	4 km
15 <sup>note 5</sup>	Hill Castle near Tagoat – Late 18 <sup>th</sup> century lodge with pyramidal roof	6	4 km

- Note 1 : Vernacular Houses for Protection
- Note 2 : 17<sup>th</sup> century Houses & Castles for Protection
- Note 3 : Church of Ireland churches for Protection
- Note 4 : Catholic Churches for Protection
- Note 5 : Bridges & miscellaneous items for Protection

Both Tables E.7.3 and E.7.4 are illustrated on Map E.7 and show that there are no known features of architectural, archaeological or historical importance within Goff Recycling Ltd site. Furthermore, Goff Recycling Ltd is at a sufficient distance away from these sites for operations to have an impact on any of these sites.

In conclusion, the cultural importance of Goff Recycling Ltd site and the potential impact of site operations on nearby features of cultural importance are considered to be insignificant.

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