

APPENDIX 4

Revised Non-Technical Summary EIS

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REVISED NON-TECHNICAL SUMMARY

Introduction

This Environmental Impact Statement (EIS) examines the potential impacts and significant effects on the environment of a proposal to change the licensed waste activities at the Greenstar Ltd's (Greenstar) materials recovery and transfer facility at Fassaroe, Bray, Co. Wicklow (Waste Licence Reg. No. 53-2).

The current licence allows Greenstar to accept and process on site for recovery and disposal 129,500 tonnes of waste per annum, comprising household, commercial and construction and demolition non hazardous waste. The facility is also licensed to biologically treat up to 2,000 tonnes of biodegradable and green wastes per annum.

Forecasting Method

An EIS was prepared for the facility in 1998 as part of the original application for a Waste Licence. The environmental monitoring programme specified in the existing Waste Licence requires routine surface water and groundwater quality monitoring, noise, landfill gas and dust surveys. The data obtained from the monitoring programme formed the basis for the assessment of the likely effects on the environment.

Archaeological and ecological surveys, completed as part of the original application for a waste licence in 1998, provided comprehensive baseline data on these topics. As the proposed changes to waste activities will not involve either the extension of the facility nor major construction works on previously undisturbed ground it was considered unnecessary to commission new surveys. Following the Article 14 request however, the ecological survey has been updated and includes a list of areas of conservation within ten kilometres of the facility.

Technical Difficulties

There were no difficulties encountered in compiling the required information. Given that there is already a comprehensive environmental monitoring programme in place it was not necessary to either commission specific surveys to establish baseline groundwater and surface water quality or assess the impact of air emissions. The information compiled in the monitoring programme was used to establish the existing environmental status of the facility and the basis for impact assessment.

The proposed changes are: -

Increase in Waste Inputs

- Greenstar proposes to increase the volumes of waste accepted at the facility from the current 129,502 to 200,000 tonnes. The increase will be *pro rata* for all the waste types, with the exception of hazardous waste, as shown on Table 1.1. Greenstar also proposes to accept bonded asbestos wastes and electrical waste in the civic amenity area.

Table 1.1 Proposed Increase in Waste Volumes

Waste Type	Maximum Tonnage Per Annum (Current)	Maximum Tonnage Per Annum (Proposed)^{Note 1}
Household ^{Note 2}	25,000	38,600
Commercial	69,500	107,358
Construction and Demolition ^{Note 3}	35,000	54,040
Hazardous (Batteries)	2	2
Total	129,502	200,000

Note 1: Subject to Market Conditions

Note 2: Will include 400 Tonnes of Waste Electrical Equipment

Note 3: Will include 2000 Tonnes of Asbestos Cement Containing Materials

Biowaste Treatment

It is proposed to increase the biowaste treatment capacity from 2,000 tonnes to 10,000 tonnes per annum. This will require changes to the design and location of the biowaste treatment system to accommodate the increased volumes.

Capping System & Restoration

The licence specifies the capping system that should be installed over the former landfill area. This is a prescriptive design and does not take into consideration site specific conditions. Greenstar proposes a different specification for the capping of the landfill which is based on site conditions and the results of the environmental monitoring programme. Due to the need to obtain Bord Gais approval for works adjacent the gas pipeline that runs through the site the implementation of the restoration programme has been delayed. Greenstar has recently reached agreement with Bord Gais concerning the restoration works in this area. Due to the delays the restoration programme will not be completed by April 2006. Greenstar wish to extend the timeframe specified in the licence for completion of the restoration plan to April 2009.

Process and Sanitary Wastewater

Process and sanitary wastewater generated at the facility is either removed off-site for treatment or discharged to an on-site septic tank. Greenstar proposes to discharge all process and sanitary wastewater to a new foul sewer which connects to the municipal wastewater treatment plant in Bray. Following the connection the use of the on-site septic tank will cease. Part of the agreement in relation to the sewer connection involves the transfer of ownership of a small portion of the existing facility.

Operational Hours

Greenstar is seeking to have the authority, subject to the Agency's approval, to amend the operational and waste acceptance hours at the facility. This will allow the more efficient operation of the facility and meet customer demands in relation to waste collection.

Other Changes

Greenstar is also seeking the authority to engage waste collectors and waste treatment/recycling/disposal service providers without the prior approval of the Agency. This will not result in any environmental impact.

Public Consultation

Greenstar consulted with the EPA and the Eastern Regional Fisheries Board. Greenstar also sought comments from the general public by advertising their intention to develop the facility in a newspaper circulating in the area.

Waste Management Policy

National policy on waste management is guided by the Department of the Environment and Local Government's policy statement of September 1998, "Changing Our Ways" and the more recent statement 'Waste Management – Taking Stock and Moving Forward' in which the Government reaffirms its commitment to the EU hierarchy of waste management.

A Draft National Strategy on Biodegradable Waste was published in April 2004, which outlines Government policy in relation to diverting biodegradable wastes from landfill states '*For biodegradable waste that must be collected and managed, materials recycling and biological treatment are favoured, since they recover the material for new beneficial uses.*'

Regional waste management policy is set out in the Wicklow Waste Management Plan 2000 - 2004. The plan acknowledges the waste management infrastructure deficit in Wicklow and the need for increased capacity in order to meet targets set out in the plan. The overall policy outlined in the Plan is to '*move quickly to a 'maximum recycling' scenario, which will meet the wishes of the public and also meet the mandatory targets for recycling set out by Government*'.

Need for the Development

Greenstar has identified market opportunities to significantly increase the quantities of recoverable/recyclable/compostable waste suitable for processing at the facility. The proposal to increase the volumes of waste accepted for recovery, recycling and biowaste treatment at the facility is consistent with the objectives identified in National and Regional waste policies on waste management.

Alternatives

The alternative to an increase in the volume of materials accepted and biowaste treatment capacity would be to establish a new materials recovery and biowaste treatment facility. This is neither environmentally nor commercially the best practical solution, as it would involve the unnecessary duplication of the services already provided by the existing facility.

Project Description

Site Location

The facility is located at Fassaroe Lane, Bray, Co. Wicklow, approximately 350 m west of the M11 motorway that links north Wicklow with Dublin City (Figure 1). The facility is in the townland of Fassaroe approximately 3 km west of Bray town centre and 2 km north east of Enniskerry village. Access to the site is controlled by means of a traffic barrier at the weighbridge at the facility entrance. The main route to the facility is a link road from the nearby motorway M11. This road is currently being upgraded to allow for further developments south of the Greenstar facility. Part of the upgrade includes the construction of a roundabout close to the site entrance that will be used by vehicles entering the facility.

Opening Hours and Staffing Levels

The facility only operates during the hours of 7:30 - 21:00 Monday to Saturday inclusive and waste is only accepted and transferred from the facility between the hours of 7:30 - 19:00 Monday to Saturday inclusive. It is proposed to amend the current licence to allow for the hours of operation/acceptance to be extended subject to the Agency's approval.

Waste Acceptance and Handling

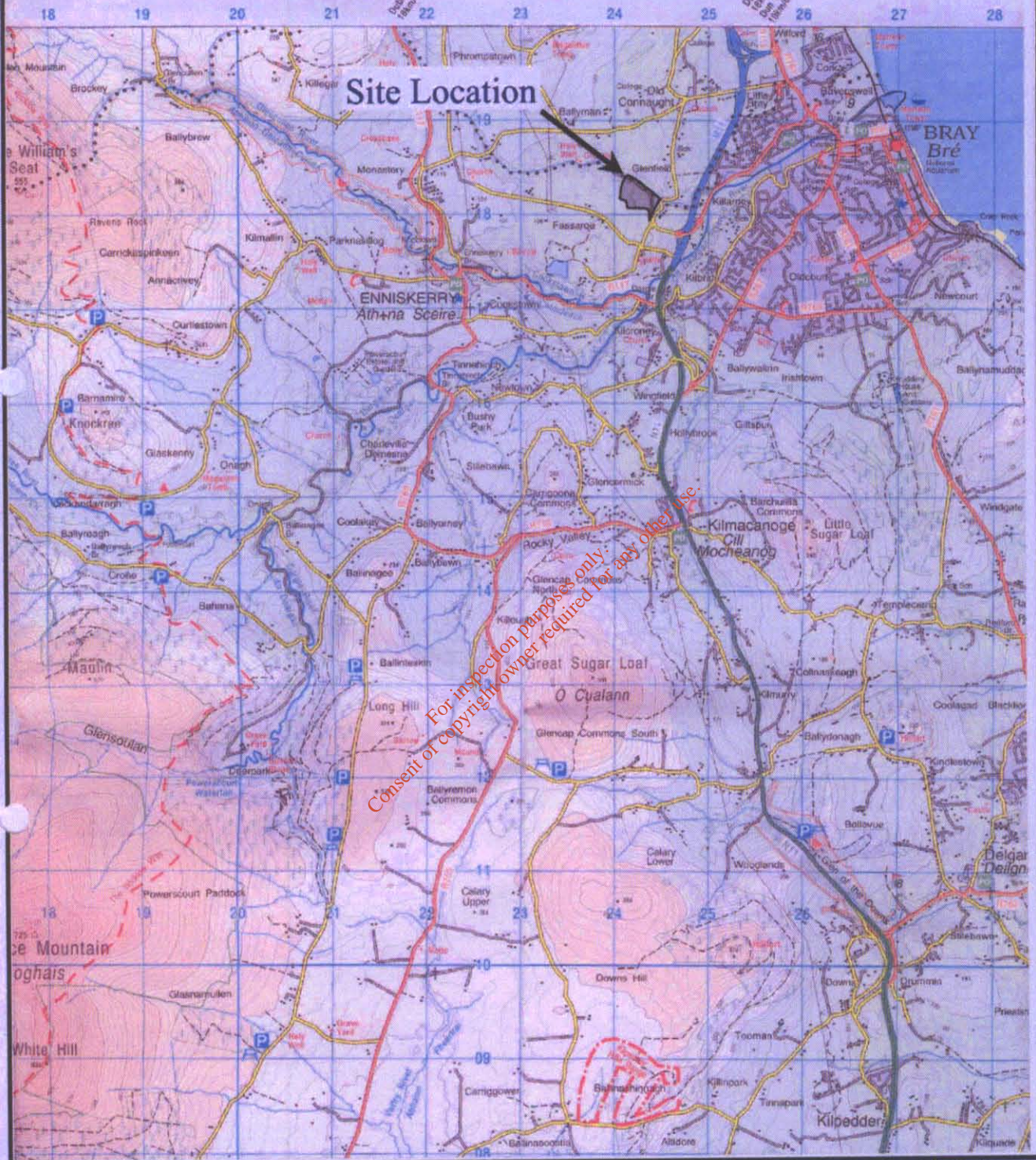
All wastes accepted at the facility are subject to both waste acceptance measures and waste handling measures that have been approved by the Agency. It is not proposed to change these approved acceptance and handling procedures. The increase in the volumes of waste materials will not alter the materials recovery and transfer handling procedures currently successfully employed at the facility. The only new waste handling operations proposed relate to the proposed extension to the biowaste treatment process.

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CLIENT



TITLE

Site Location Map

Details

O.S. Licence Agreement
Number AR 0038702

Ordnance Survey Ireland,
Government of Ireland.

FIG. No

1

Scale

NTS

Rev.

A

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Biowaste Treatment Plant

The biowaste treatment plant will be developed on an impermeable concrete slab. All leachate and contaminated run-off from process areas will be collected for recirculation in the process. Any surplus liquid will be collected and stored in holding tanks prior to discharge to the foul sewer. Roof water from the reception building and run-off from non-process areas of the biowaste treatment area will be discharged to the existing surface water drainage system.

Plant and Equipment

Daily operations involves the use of front loading shovels, conveyors, trommels, mechanical grab(s), trommel screen(s), crusher, forklift(s), tractor units and trailer etc. The proposed biowaste treatment system will involve the use of new plant/equipment similar to those already in use at the facility and additional process air management and control plant.

Drainage

Surface water from the hardstanding and roofed areas collects in drains and is piped to soakways. It is not proposed to alter the existing surface water drainage in the materials recovery area. Run-off from the roof of the biowaste reception building and non process areas will be collected and directed to the existing surface water drainage system.

Process wastewater comprises washwater from the vehicle cleaning and washing of the floors in the transfer station buildings and in the compactor and loading area. The wash water from the floor of the compactor and loading area is collected and disposed of off-site. The wash water from the vehicle wash drains into a sump which is pumped out to the on-site septic tank. Wastewater from the toilets also goes to the septic tank.

It is proposed to discharge all process and sanitary wastewater to the new foul sewer. The process wastewater will discharge to the sewer via a petrol/oil interceptor while the sanitary wastewater will discharge directly to the foul sewer. A monitoring location and programme for process wastewater will be agreed with the Agency.

Existing Environment, Potential Environmental Effects and Mitigation Measures

Climate

The climate in the area of Fassaroe can be described as mild and wet, with the prevailing wind direction from the south west. The proposed changes to facility activities will not result in any impacts on the climate or microclimate at the site.

Ecology

The facility is not located within the boundaries of any designated sites of ecological importance and is categorised as a 'site of limited wildlife interest'. The biowaste treatment plant will be located in an area of 'waste ground' that is currently used to stockpile processed C&D material and is therefore constantly subject to disturbance and movement.

Geology

The soils and subsoils comprises sands and gravels, which are known to be up to 45 metres thick in the Dargle Valley. Within the site much of the sand and gravel has already been extracted. The exposed side slopes of the site are very steep and display sand and gravel deposits in a silty clay matrix.

The subsoils are underlain by blue-grey slate, phyllite and schist from the Maulin Formation. The Maulin Formation is part of the Ribband Group of Lower Palaeozoic Rocks, which are the oldest rocks in the Wicklow area.

Hydrogeology

The sand and gravel deposits in this part of County Wicklow are a Locally Important sand and gravel Aquifer (Lg). The Aquifer Vulnerability rating is considered to be High. The bedrock beneath the site is categorised as a Locally Important Aquifer, which is moderately productive only in local zones (LI). The bedrock Aquifer Vulnerability, is considered to be Moderate to High.

Shallow groundwater flow is expected to be generally from southwest to the east northeast. During low flow conditions it is possible that groundwater from the sands and gravels beneath the site contribute significantly to base flow in the River. The surface water drainage system collects and discharges storm water from roofed and paved areas to soakaways which ultimately drain via shallow sub-surface flow to the Glenmunder River. The groundwater quality monitoring at the facility has identified localised impacts attributed to the use of the septic tank.

It is proposed to discharge the existing process wastewater, surplus leachate from the biowaste plant, and sanitary wastewater to a new foul sewer. Following the connection to the sewer the use of the septic tank will no longer be used and this should have a positive impact on groundwater quality.

Hydrology

The surface water drainage system in and around the site is dominated by the proximity of the nearby Glenmunder River at the north-eastern boundary. The Glenmunder ultimately drains to the River Dargle, which is a designated salmonid river. There are no direct discharges to surface water from the site. Surface water emissions from the site are generally restricted to that of surface water run-off from hardstanding and roofed areas after a rainfall event.

Surface water quality monitoring has identified that water quality in the stream is generally satisfactory. There is evidence of occasional impacts associated with upstream sources, but no evidence that site activities have impacted on water quality.

Traffic

The current daily vehicle movement are seventy seven (77) vehicles in and 77 vehicles out. This equates to on average, one (1) vehicle entering and leaving the site every ten (10) minutes or approximately six (6) vehicles per hour entering and leaving the site. The proposal to increase the overall volumes of waste will result in increased in traffic. The projected movements are 119 vehicles in and 119 vehicles out per day. This equates to approximately one every 6 minutes or ten per hour. The existing local road network and site access has the capacity to cope with these projected traffic volumes.

Air Quality

The existing and proposed activities are a potential source of dust, bioaerosols and odours. The main dust sources being the access roads, waste processing, waste stockpiles and site development works. Dust monitoring has identified occasionally high dust levels inside the property boundary linked to construction work and wind blow from the exposed side walls.

It is considered that the current facility operations, including the external processing of C&D waste, do not contribute significantly to dust levels and it is not expected that the proposed increase in waste volumes and the expansion of the biowaste treatment operation will cause a significant increase in dust generation.

The proposed biowaste treatment system will not be a source of dusts. The moisture content of the compostable material delivered to the facility (ca. 60%) and the moisture content of the material during all stages of the biowaste treatment process (40 to 70%) including mixing, residence in the digester, curing and refining will prevent the generation of dusts.

Any bioaerosols generated during the biowaste treatment process would occur during the mechanical pre treatment (blending) and the initial biowaste treatment stage. The reception building, the in-vessel units and the Aerated Static Piles will be equipped with air extraction and biofilter treatment of process air. These air collection and treatment measures will effectively minimise the risk of bioaerosol releases to atmosphere.

Odour emissions are associated with the handling, sorting and transfer of both household and commercial waste due to its organic content. Emissions from handling and storage of dry recyclable material (i.e. plastics, glass, metals) and C&D waste are negligible. The current materials recovery and transfer operations are not a source of odour nuisance and the proposed increases in waste inputs will not result in any significant increase in odours. Biowaste treatment has the potential to be a source of odours due to the organic nature of the waste and the biowaste treatment process itself.

Odour emissions from the biowaste treatment process will be controlled by three primary methods i.e. management of the incoming material to prevent the development of anaerobic conditions, temperature control and air emission treatment. The biowaste treatment system design incorporates effective odour control measures which have been proven effective at other locations and the proposed location of the biowaste treatment area is remote from sensitive receptors.

Noise

Noise surveys at noise sensitive locations indicate that the dominant sources of noise are construction works at the facility and adjoining properties and traffic entering and leaving the facility. The proposed increase in waste inputs will not result in any new sources or locations of noise emissions.

The proposed changes to the biowaste treatment plant will result in new sources and locations of noise. The biowaste treatment plant will be provided with noise attenuation. An assessment of the impact of the proposed changes to current operations has established that there will be no adverse impacts on noise sensitive locations.

Landscape

The site is located in a former sand and gravel quarry and is naturally screened by cliffs ranging in height from 10 to 20 meters which form the northern, western and south western site boundary and by steeply rising ground to the east. The development of the biowaste treatment plant will not have any significant effect on the landscape of the area and will not be visible from any public viewpoint.

Material Assets

The site is in an area currently being developed for commercial purposes and its immediate environs do not have a significant leisure amenity potential. The Glenmunder Stream, which is to the north-east of the facility and forms the sites eastern boundary is not used by anglers and is not a designated salmonid river. The stream does however drain to the River Dargle, which is a designated salmonid river. The proposed changes to facility activities will not impact negatively on the Glenmunder River.

Cultural Heritage

There are no recorded monuments located within the facility boundary. The proposed biowaste treatment plant will be developed on previously backfilled areas. There will be no disturbance to previously undisturbed ground and there will be no direct impact on any of the known archaeological sites in the area.

Human Beings

The land uses in the surrounding area consist of a mixture of agricultural, commercial, quarrying and residential use. Third party development works are currently under construction to the south of the site. The nearest private residences are located along the county road to the south east of the site. There are approximately 11 residences within 500 m of the site, with the closest being approximately 20 m from the south eastern site boundary. There is a sand and gravel quarry approximately 400 m to the south west of the site operated by Roadstone which is now mainly used as a brick and block depot. The proposed development will have a neutral impact with imperceptible consequences for Human Beings.

Interaction of the Foregoing

The aquifer beneath the site is not a regionally important aquifer and is not used locally as a source of groundwater supply. The site design includes for control measures to prevent direct or indirect discharges to groundwater. Sanitary and process wastewater will discharge to the new foul drainage system and directed for treatment at a wastewater treatment plant in Bray.

The existing and proposed site design and method of operation incorporates measures to effectively mitigate the potential air/odour impacts. There are no sensitive receptors including residential properties within 250 m of the proposed biowaste treatment area. It is considered that the residual impact on Human Beings due to the proposal to increase the volumes of waste processed will be imperceptible.

Evaluation of Impacts

An evaluation of the impacts associated with the proposed facility is presented in Table 1.2.

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Table 1.2 Evaluation of Impacts

Description	Impact No.	Character	Magnitude	Duration	Consequences	Significance of Impact	Certainty
Climate	1	Increased CO ₂	Traffic increase from 1/10 minutes to 1/6 minutes	Long Term	Negligible Impact on Kyoto Commitments	Imperceptible	Medium
Traffic	2	Increase in Traffic Volume	Traffic increase from 1/10 minutes to 1/6 minutes	Long Term	None Known	Imperceptible	Medium
Landscape	3	New Biowaste Treatment Area & Reception Building	-	Long Term	None – Invisible from Public Viewpoints	Positive in terms of Site Development	High
Flora/Fauna	-	-	-	-	-	-	-
Geology/ Hydrology 1	3	Increased Discharge to Surface Water Drainage System	Extra Roofed & Paved areas.	Long-Term	None Known	Imperceptible	High
Geology/ Hydrology 2	4	Silting of municipal sewer during development work	Limited to Site	3 Months	Loading of Municipal Sewer	Insignificant	Low
Air 1	5	Bioaerosols	Limited to Site, by operational procedures	Long-Term	None Known	Imperceptible	Medium
Air 2	6	Dust	On-site Paved Areas, External Processing Area	Long-Term	Nuisance	Imperceptible	Medium
Air 3	7	Odour	Inside Building	Long-Term	Nuisance	Insignificant	Medium
Noise	8		On-Site	During Operational Hours	Annoyance	Imperceptible	High
Archaeology	-	-	-	-	-	-	-
Material Assets	9	Non-Renewable Resource Consumption	Minimal.	Long-Term	None Known	Imperceptible	High
Human Beings	-	-	-	-	-	-	-