



**NON-TECHNICAL SUMMARY**

**OF**

**ENVIRONMENTAL IMPACT STATEMENT FOR  
A REVISED LANDFILL FOOTPRINT AND INCREASED  
ANNUAL INTAKE AT KNOCKHARLEY LANDFILL,  
CO. MEATH**

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# Environmental Impact Statement for a Revised Landfill Footprint and Increased Annual Intake at Knockharley Landfill, Co. Meath

VOLUME 1 OF 3

## Non-Technical Summary

### User is Responsible for Checking The Revision Status Of This Document

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Abstract: Greenstar is applying to Meath County Council for planning permission to increase waste intake at Knockharley Landfill to 200,000 tpa (from the current 132,000 tpa allowed under the current planning permission) . In addition, Greenstar proposes that the landfill footprint reverts to that originally applied for (and both permitted by the site's waste licence and described in the original EIA). This revised waste EIS addresses these issues and outlines the current situation, potential impact of the proposed changes to the landfill operation and outlines mitigation measures where necessary. This document summarises the EIS in a non-technical fashion.

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## 1. INTRODUCTION

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### 1.1. The Applicant

Greenstar Ltd is the applicant for the proposed development.

### 1.2. The Site

The facility comprises a landfill and ancillary facilities including roads, weighbridges, offices, lagoons, mechanical and electrical services and a range of environmental control/monitoring measures

The site opened in December 2004 and accepts non-hazardous waste only including household, commercial, industrial and construction/demolition waste.

The facility is located 7 km south of Slane, 7 km west of Duleek, 10 km east of Navan and 17 km north of Ashbourne in the townlands of Knockharley, Flemingstown and Tuiterrath. The property is bounded to the east by the National Primary Road, the N2, and is generally enclosed to the north and west by County Road CR384 and to the south by Regional Road R150. The location is given on Figure 1.1 attached.

The site current comprises ca. 135.5 ha but a recent purchase would extend the area to 136.2 ha.

The facility operates from 08:00 to 18:00 hours Monday to Friday inclusive and between 08:00 and 13:00 hours on Saturdays. The facility does not operate on Sunday or public holidays.

Wastes arriving at the facility enter the site via a private dedicated access road that connects the landfill with the National Primary N2 road and are firstly weighed and inspected at the weighbridge and reception before proceeding to the waste disposal area.

Generally, wastes arrive in approximately 22 tonne covered loads.

Trucks leaving the site pass through a wheel wash before exiting onto the N2 via the private access road.

The wastes are fully contained through the use of a 1m thick composite HDPE and clay liner. Wastes deposited within the footprint are compacted and covered daily to limit wind-borne litter and other nuisances. Bird control is achieved through the use of trained birds of prey controlled by a specialist handler, combined by other deterrents such as kites and balloons. Odour control technology has been installed at the facility.

Leachate that collects in the base of the footprint is pumped to the leachate lagoon and is eventually tankered from the site for treatment and disposal.

Drainage from adjoining lands onto the Knockharley site is directed around the property and flows into the local drainage network at the southern boundary of the facility. Surface water from the landfill is directed to a purpose built storm water attenuation pond and constructed wetland. The outflow from the constructed wetland flows into the local drainage network.

The development of the landfill to date has included the construction of berms and the planting of trees (Figure 1.2) that are designed to limit the visual intrusion of the landfill within the local landscape.

Emissions from the site are fixed by a set of emission limits contained in the EPA waste licence and these relate to noise, landfill gas, dust deposition and surface water.

### **1.3. Project description**

In plan, the landfill comprises a rectangular shape with a wedge-shaped portion deleted at the north-west corner (see Figure 1.2). The 'wedge' deletion resulted from a planning condition that restricted development in the vicinity of a nearby property. Greenstar has since purchased the said property and is now applying for planning permission to reinstate the 'wedge' and extend the landfill footprint to the entire licensed area as shown on the figure. See Figure 1.3.

The facility boundary will also be modified to include the property acquisition. This involves an increase in the extent of the footprint currently permitted under the ABP planning permission but the landfill footprint will not extend beyond what is currently licensed by the EPA. The existing security and environmental control and monitoring measures are designed for the entire site as licensed by the EPA. There is no requirement to enhance or augment these measures for the proposed development to take place.

The (EPA) waste waste licence permits a waste intake of up to 200,000 tonnes per annum however, the current planning permission restricts the annual waste intake to 132,000 tonnes (reducing to 88,000 tonnes after 2007). At that waste acceptance rate the development will need to accept waste for at least a period of 32 years to fill to the permitted profile. This has the effect of prolonging operational emissions including vehicular emissions from traffic, dust, surface water, leachate and gas emissions for at least 17 years beyond the original proposed active lifespan of the landfill.

Greenstar proposes to increase the annual intake to 200,000 tonnes (as per waste licence) without any step-down in 2007. It is this aspect of the application that requires an environmental impact assessment that results in this EIS. The landfill would then accept waste until 2018. Restoration would take approximately two years thereafter. The landfill would then enter the 'aftercare' phase that would include continuation of environmental protection/monitoring until such time that it is agreed (with the EPA) that the facility no-longer poses a threat to the environment.

The current planning permission restricts the source of waste to the North East waste planning region (counties Louth, Meath, Cavan and Monaghan). Given its proximity to the Greater Dublin Area (GDA), (brought 'closer' by the recent improvements to the N2/M2) Greenstar is now applying to ease this restriction. (The waste waste licence does not impose any restriction as to the source of waste).

In fact, Greenstar handles over 500,000 tonnes of waste in the GDA but is currently prohibited from delivering residual waste from its Dublin based waste recycling facilities to its own landfill in Knockharley. Paradoxically, Greenstar can deliver waste to other landfills in the north-east region.

Greenstar proposes to continue to pay a levy of €1.89 per tonne to a community fund. To date, Greenstar has contributed almost €250,000 to the fund for expenditure on community projects in the area.

There are thus three primary issues addressed and discussed in the EIS:

- A relatively small footprint extension
- Removal of a 'discrepancy' between the licensed and planning-permitted tonnage accepted so that, in both cases, 200,000 tpa are accepted
- Removal of a restriction, imposed by the planning permission but not replicated in the waste licence, on the source of waste



0 5 10 15  
 SCALE 1:250,000 KILOMETRES



Irish Sea



**Knockharley Residual Landfill Project Site Location Plan**

Figure No. 1.1 NTS Job No. C004480 Date: July 2006  
 Finalised By -



For illustrative purposes only.



**Figure 1.3: Proposed Site Layout**

#### **1.4. The Merits of the Proposal**

The EIS demonstrates that an increase of annual input is a more efficient and more environmentally sustainable option.

The removal of the waste-source restriction will provide for greater annual waste disposal capacity for the Greater Dublin and North-East region. This additional capacity would prove beneficial should newer waste treatment developments be delayed in the region.

The rationalisation of the landfill shape has no significant impact given that the reason for the original restriction no longer exists.

#### **1.5. Site Selection and Alternatives Considered**

The proposal relates to the current landfill and there were no alternative locations considered relevant.

#### **1.6. The Consultants**

<b>Role</b>	<b>Consultant</b>
Lead consultant	Fehily Timoney & Company
Planning Issues	Kiaran O'Malley & Co. Ltd
GIS	White Young Green
Traffic	Trafficwise
Landscaping	Brady Shipman Martin

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## **2. IMPACTS AND MITIGATION**

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### **2.1. Human Beings**

The main potential impacts on human beings in the vicinity of a landfill are from contamination of surface and groundwater, sub-surface migration of landfill gas, odour, dust, litter and vermin. The revised waste footprint will be no closer than 250 m from any dwelling. This is consistent with EPA guidance for landfills.

The facility has proved itself (as is evident from its environmental performance) not to have breached any environmental standards. The site operations were officially audited by the EPA in January 2005 and in January 2006 and on both occasions were found to be fully compliant with the conditions of the waste licence. In EPA audit terms, this is an exceptionally high level of compliance. The extended footprint will be designed, constructed and operated to the same exacting standards.

Environmental control measures currently in place at the landfill address odour, dust, noise, emissions to ground and surface water and vermin on site. These measures will be intensified if and where necessary.

### **2.2. Property Values**

There is no evidence to show that property will be devalued in the vicinity of the landfill. In fact residential development continues to grow. The construction of relatively dense housing continues at the eastern end of Kentstown village (approximately 1,600 m from the site boundary, 1,900 m from the nearest landfill footprint and 2,250 m from the proposed footprint extension).

The proposed footprint extension is furthest removed from the greatest proportion of nearby dwellings and is unlikely to have any further effect (real or perceived) on the current permitted development. The increased waste input applied for will hasten the filling and closure of the facility and will remove the perceived impact in a more timely manner.

The facility is, in itself, a positive material asset for the county and region at large. The existence (or lack) of high-quality waste management infrastructure has a significant influence on growth and development.

### **2.3. Noise**

The main noise emissions from the proposed increased intake will be from traffic all of which will access the site from the N2. Traffic noise will vary throughout the day with no traffic noise at night. Also, the increased waste intake will shorten the overall active life of the facility and its potential to cause noise nuisance.

The source of waste has no influence on the noise level.

The footprint extension will not generate noise over and above the remainder of the development.

Mitigation includes designation of routes to the landfill, speed restrictions and vehicle/plant maintenance.

## **2.4. Landscape**

The existing landfill is set in a landscape of mainly rural character where natural features such as agricultural fields, hedgerows and trees predominate. This landscape is typical of much of County Meath with its strong tree-lined hedgerows and small woodland copses.

The site has a good degree of inherent screening from strong hedgerows along roads and field boundaries and from the berms and screen planting undertaken at the facility. Visibility tends to be confined to views of the perimeter fence in the immediate surrounds of the landfill with long distant views at further from the facility.

To complement existing tree-lined hedgerows, a minimum 50 m wide belt of predominantly native mixed woodland was established on all boundaries of the main landfill site area extending to over 112 acres of new woodland. Over 100,000 individual plants comprising Ash, Beech, Larch, Maple, Oak and Pine species were planted at a variety of sizes from 1 m to 3 m in height. This scale of planting is considerable higher than the 50 acres proposed in the original EIS for this development. 112 acres have already been planted by Greenstar at this very early stage in the life of the landfill even though the current planning permission had facilitated phased planting if the developer so required.

To the south of the landfill, a 5 m high planted berm was established along the site boundary to give immediate screening in advance of plant establishment. A large wetland was provided near the southern boundary and planting established around this feature is in keeping with a wetland habitat.

Phase 1 of the site construction comprised the greatest visual impact and the most intense visual impact mitigation. At this current stage, all external roadworks and internal ancillary infrastructure have been provided together with 20% of footprint development. Virtually all of the screening planting has been undertaken and will grow and mature as the remaining landfill cells are developed.

The character of the existing landscape setting has been evaluated taking account of the various natural and man-made features, such as topography, landform, vegetation, land-use, built environment etc. together with the visibility of and the views to and from the site.

It is proposed to extend the landfill footprint to the north west of that permitted under the ABP permission. The extension area lies within the EPA permitted footprint area.

Based on the limited visibility of the current development the proposed minor modifications to Phase 7 will not have a significant visual impact.

Other than minor ground disturbance for the proposed revision of Phase 7, there will be no tree and hedgerow removal or significant changes in ground level. The earlier closure of the facility will shorten the period of potential visual impact.

There will be no change to the final maximum filled height of the landfill as currently permitted under both the planning permission and the waste licence. Thus, no additional mitigation measures are required relating to the protection of the landscape.

## **2.5. Traffic**

There is not likely to be any increases in the number of vehicles using the R153 or the R150 from the proposed development. There will continue to be a ban on traffic accessing the site from the direction of Kentstown school.

Increases in traffic flows are likely to be on the N2 (past existing junctions) The predicted increase in traffic (11 vehicles per day based on 132,000 tpa intake and 14 vehicles per day based on 88,000 tpa) will be at a level that will not have a significant impact to road users or the environment. No mitigation measures are required. In either case, the increase represents less than 0.5% increased traffic on the N2.

## **2.6. Cultural Heritage**

Archaeological studies have not given rise to concern that the landfill extension site is of particular interest and no impact is predicted. Notwithstanding that, as at present, all earthworks will be undertaken under archaeological supervision as is required by the site's planning permission.

## **2.7. Ecology**

The landfill extension development is a continuation of the current development. The land in question has no significant designation or interest from an ecological perspective. The establishment of mixed-species woodland surrounding the footprint plus an extensive wetland to the south mitigates and enhances the biodiversity on the site.

## **2.8. Geology and Hydrogeology**

Landfill construction must take cognisance of the underlying geology. Primarily the existence of low-permeability soils is a pre-requisite in selecting the site. The overall site including the footprint extension is in full compliance with guidance given by the Geological Survey of Ireland.

Hydrogeology can be described as the study of groundwater. The groundwater is protected by the establishment of an engineered barrier under the landfill both in the extension and elsewhere thus there will be no impact on groundwater resulting from the extension.

The increased waste intake actually has the effect of reducing the quantity of leachate produced and thus lessens the risk of impact on groundwater.

## **2.9. Surface Water**

There is potential for surface water contamination arising from any earthworks operation. Additionally, an un-engineered landfill has the potential to allow contamination (leachate) to enter the surface watercourses. In this instance, leachate is contained and removed safely off site for treatment. Furthermore, the surface water drainage infrastructure includes a final holding lagoon and wetland attenuation to mitigate any contamination such as suspended solids that might arise during construction.

Surface water protection measures proposed for the extension will marry with those currently in place at the facility and will be sufficient to ameliorate any potential impacts of the development on surface water.

## **2.10. Climate and Air**

There are no expected impacts from the development on the local climate in the area. Landfill facilities generate landfill gas as the waste decomposes over time mainly comprising methane and carbon dioxide. It is generally accepted that these gases contribute to global warming and climate change. Although there will be a greater production rate of landfill gas from the increased rate of waste acceptance, it will be actively abstracted and directed for flaring. In fact the efficiency of landfill gas collection and treatment by flaring will increase with the increased rate of landfilling. No additional mitigation measures are required.

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### **3. INTERACTIVE IMPACTS AND CONCLUSION**

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There are many interactions between the potential effects associated with the proposed changes to the landfill operation. The cumulative effects of the impacts can be both negative and positive.

#### **3.1. Negative Cumulative Effects**

- Slight increased traffic movement on the N2
- Slight increase in noise level due to increase traffic to the landfill
- Slight decrease in air quality due to increase traffic to the landfill
- Visual impact of increased traffic movements.
- Reduced distance between the waste body and the north-western boundary

#### **3.2. Positive Cumulative Effects**

- Accelerated waste filling will reduce significantly the lifetime of the landfill
- Reduced leachate production
- More efficient landfill gas production which can be used for energy recovery
- More efficient use of on-site human and mechanical resources
- Reduced timeframe for landscape impact
- A more rational use of waste infrastructure
- Removal of unfair costs to Greenstar customers and waste producers regionally