

Jim Dowdall
Enviroguide Consulting
93 Upper George's Street
Dun Laoghaire
Co. Dublin

30 November 2011

Composting Facility for O'Toole Composting Ltd at Ballinatrane, Fenagh, Co. Carlow

Dear Mr. Dowdall,

Please note that the location of this proposed development is close to the River Burren which is an important salmon spawning tributary of the Barrow River. The Barrow River is an important Spring Salmon & sea trout fishery. The Barrow system supports several species listed in Annex II of the Directive including Salmon, River Lamprey, Brook Lamprey, Sea Lamprey, Freshwater Pearl Mussel and Otter. Much of the main channel of the Barrow River is a candidate Special Area for Conservation (SAC) under the European Habitats Directive.

We request details of the process employed at this facility, including the production of any waste/byproducts. Of specific concern is the production of significant volumes of waste/byproduct that is likely to be land spread. If this case arises the proposed methods of disposal for any waste products and spread lands, should be addressed fully in the context of this EIS.

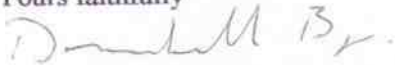
Our concerns include:

- (1) We note that the expansion of the compost production unit on site will mean that significantly greater quantities of organic material will be imported on to this site. It is imperative that adequately bunded and covered areas are provided for storage of organic material on-site prior to their use for compost production, and for the storage of compost and or other by-products prior to its removal off-site.
- (2) The compost production unit must be fully bunded with adequate storage for run-off during all weather conditions.
- (3) Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds. Refuelling of machinery must be carried out in bunded areas.
- (4) All surface waters from the site and access road should be channelled through adequately sized petrol / oil interceptors and be subject to attenuation prior to discharge.
- (5) All existing storage tanks are checked to ensure that there are no losses to surface or groundwater
- (6) Systems should be put in place to ensure that there shall be no discharge of suspended solids or any other deleterious matter to watercourses during the construction phase and during any landscaping works.
- (7) All waste oil, empty oil containers and other hazardous wastes are disposed of in conjunction with the requirements of the Waste Management Act 1996.

- (8) The Waste Water Treatment System and percolation area should comply with the EPA's Waste Water Treatment Manual for small communities.
- (9) A maintenance contract should be entered into with the supplier of the Waste Water Treatment System

Inland Fisheries Ireland asks if a groundwater monitoring programme will be undertaken at sites up-gradient and down-gradient of this facility to assess the potential for groundwater pollution as part of the conditions of this licence.

Yours faithfully



Donnachadh Byrne
Senior Fisheries Environmental Officer

Please note that any further correspondence regarding this matter should be addressed to Mr. Donnachadh Byrne, Senior Fisheries Environmental Officer, Inland Fisheries Ireland, Main Street, Blackrock, Co. Dublin.

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Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive
6th January 2012

Mr. Jim Dowdall
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93 Upper Georges Street
Dun Laoighre
Co. Dublin

HSE South,
ENVIRONMENTAL HEALTH DEPARTMENT

11 Patrick Street,
Kilkenny,
Ireland.

Telephone 056 7784742
Fax 056 7762741

St. Dymphna's Hospital,
Athy Road,
Carlow,
Ireland.

Telephone 059 9136574
Fax 059 9136508

Re: Preparation of an Environmental Impact Statement for Waste Licence Application for O'Toole Composting Ltd., Ballinrane, Fenagh, Co. Carlow.

Dear Mr. Dowdall,

I refer to correspondence dated 25th November 2011 issued to Health Service Executive, Millenium Park, Naas, Co. Kildare seeking submissions or comments relating to the proposed development.

The matter has been forwarded to this office for appropriate action. I have visited the site in question and met with Patrick O'Toole, Composting Facility Manager. A tour of the facility was conducted and a review of relevant documentation was carried out. The objective of the Environmental Health Service in scoping this proposal is to identify key areas of concern from a public health viewpoint, so that concerns can be assessed and evaluated by the proposer at an appropriate level in the Environmental Impact Assessment. The concerns listed identify environmental health issues likely to arise from the proposed changes at the facility.

General

1. The E.I.S shall address the issue of undertaking and completing meaningful public consultation with the local community. Such consultation should give the local community an opportunity to comment on the proposal. It is necessary to ensure that formal structures are put in place to deal with queries and complaints from the general public.
2. The E.I.S shall indicate the consideration given to identifying alternatives to the continued use of the facility.
3. The E.I.S shall indicate proposed closure date of the facility.
4. A closure, restoration and after-care management plan shall be provided and addressed in E.I.S.
5. The E.I.S shall indicate and identify the presence and location of any private water supply sources which may be at risk from activities at the composting facility.
6. The potential for site run off impacting surface water and ground water shall be addressed in E.I.S.
7. The impact of dust generation should be assessed and a Dust Minimisation Plan or similar mitigation measure that meets current national standards should be addressed in E.I.S



8. E.I.S. should contain a Construction Management Plan for the proposed construction activities. Best practice measures and appropriate monitoring (where necessary) should be implemented.
9. Potential impacts of noise pollution (including vibration) from construction phase should be clearly identified in E.I.S. The identification of potential noise sensitive locations, predicted noise level exposure and duration is sought in order to protect the amenity of any noise sensitive locations.

Operational Phase

1. Existing on site traffic control measures should be addressed in E.I.S.
2. An Odour Management Plan should be provided in E.I.S. Comprehensive Odour Abatement and best practice techniques shall be implemented. A comprehensive "complaints" policy and procedure should be put in place and addressed in E.I.S.
3. On site arrangements for the storage of fuels, oils, lubricants and proposed mitigation measures in the event of accidental spillage shall be outlined in E.I.S.
4. Consideration should be given to assessing and updating pest control measures in E.I.S.
5. Current dust monitoring measures should be addressed in E.I.S.
6. Litter patrol procedures around the boundary of the site should be addressed by E.I.S.
7. General site management operations within the facility should be addressed by E.I.S.

If you have any queries with regard to this submission, please contact the undersigned at: 059-9136559.

Yours sincerely,



TRACEY MORRIS
ENVIRONMENTAL HEALTH OFFICER

Agreed:



RICHARD McGRATH
A/PRINCIPAL ENVIRONMENTAL HEALTH OFFICER

Jim Dowdall

From: Jill Stewart [Jill.Stewart@failteireland.ie]
Sent: 30 November 2011 09:52
To: jdowdall@enviroguide.ie
Subject: Fáilte Ireland EIS Guidelines & Fáilte Ireland Address
Attachments: EIS and Tourism Guidelines 2011.doc

<<EIS and Tourism Guidelines 2011.doc>>

Dear Mr Dowdall,

I wish to acknowledge receipt of your recent letter to Fáilte Ireland regarding the Environmental Impact Assessment for proposed facility at Ballintrane, Fenagh, Co Carlow.

I attach a copy of Fáilte Ireland Guidelines for the treatment of tourism in an EIS, which we recommend should be taken into account in preparing the EIS.

Please send all future correspondence for the attention of Mr Paddy Mathews at Fáilte Ireland, 88-95 Amiens Street, Dublin 1.

Yours sincerely,

Jill Stewart

Jill Stewart

Destinations Development

Fáilte Ireland

88-95 Amiens Street

Dublin 1

Tel: 01 8847202

Jill.Stewart@failteireland.ie

www.failteireland.ie

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Fáilte Ireland

National Tourism Development Authority

Guidelines on the treatment of tourism in an Environmental Impact Statement

1. Introduction

Tourism is a significant component of the Irish Economy – estimated to employ approximately 190,000 people – and contributing over €5.3 billion in spending to the economy in 2009. The environment is one of the main resources upon which this activity depends – so it is important that the EIS evaluates whether and how the interacting impacts of a project are likely to affect tourism resources.

The purpose of this short note is to provide guidance on how these impacts can be assessed through the existing EIA process. Undertaking an EIA is governed by the EIA Advice Notes published by the EPA. These Advice Notes contain detailed guidance on how to describe and evaluate the effects arising from a range of projects, including tourism projects.

These guidelines were written with the assistance of Conor Skehan, Head of Department of Environment and Planning, Dublin Institute of Technology.

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2. Tourism and the Environment

There are two interactions between tourism and the environment.

1. Impacts caused by Tourism Projects
2. Impacts affecting Tourism (e.g. the quality of a destination or a tourism activity)

Impacts caused by Tourism Projects

Tourism projects can give rise to effects on the environment. These are specifically dealt with under a number of Project Types in the Advice Notes, specifically:

12 TOURISM AND LEISURE

- a. Ski-runs, ski-lifts and cable-cars where the length would exceed 500 metres and associated developments. Project Type 20
- b. Sea water marinas where the number of berths would exceed 300 and fresh water marinas where the number of berths would exceed 100. Project Type 10
- c. Holiday villages which would consist of more than 100 holiday homes outside built-up areas; hotel complexes outside built-up areas which would have an area of 20 hectares or more or an accommodation capacity exceeding 300 bedrooms. Project Type 28
- d. Permanent camp sites and caravan sites where the number of pitches would be greater than 100. Project Type 28
- e. Theme parks occupying an area greater than 5 hectares. Project Type 29

Figure 1 The Advice Notes contain detailed descriptions on how to describe and evaluate the effects arising from a range of tourism projects.

Impacts affecting Tourism

Environmental effects of other projects on tourism are not specifically addressed in the Advice Notes. Taking account of the significance of tourism to the Irish economy a specialist topic of 'Tourism' has been prepared to facilitate a systematic evaluation of effects on this sector within the format laid down for other parts of the Environmental Impact Statement.

It is not intended that the assessment of effects on tourism should become a separate section of the Impact Statement, instead it is intended to become a specialist sub-section of the topic 'Human Beings' which is currently described in Section 2 of the Advice Notes

3. Tourism in the Existing Environment

Introduction

Visitor attitude surveys reveal that the following factors – in order of priority – are the reasons that tourists visit and enjoy Ireland:

- Beautiful scenery
- Friendly & hospitable people
- Safe & Secure
- Easy, relaxed pace of life
- Unspoilt environment
- Nature, wildlife, flora
- Interesting history & culture
- Plenty of things to see and do
- Good range of natural attractions

It is noteworthy that over half of the factors listed are environmental and that all others are related to the way of life of the people. The following describes how these factors are considered within an EIS, set out under EIA topic headings, and how they interact with tourism.

Beautiful scenery

This is covered in the 'Landscape' Section. Particular attention needs to be paid to effects on views from existing purpose-built tourism facilities, especially hotels, as well as views from touring routes and walking trails. It is important to note that there appears to be evidence that the visitor's expectations of 'beautiful' scenery does not exclude an admiration of new modern developments – such as windfarms – which appear to be seen as indicative of a modern, informed and responsible attitude to the environment.

Friendly & hospitable people

This is not an environmental factor though it is indirectly covered under the 'Human Beings' section of the EIS. The principal factor is the ratio of visitors to residents. This is of less significance in areas with long-established patterns of tourism.

Safe & Secure

This is not an environmental issue – though some of the factors that are sometimes covered under the heading of 'Human Beings' – such as social inclusion or poverty – can point to likely effects and interactions.

Easy, relaxed pace of life

This is not an environmental issue though it is partially covered under 'Human Beings' – see comments above.

Unspoilt environment

This is covered under the sections dealing with '*Landscape*', '*Flora*' and '*Fauna*' and to a lesser extent under emissions to '*Water*' and '*Air*'. In some instances traffic congestion, especially in rural areas, can be an issue, this is usually covered within '*Material Assets*'.

Nature, wildlife, flora

This is principally covered under the headings of '*Flora*' and '*Fauna*' and to a lesser extent by '*Landscape*', '*Water*' and '*Air*'. The principal issues being to avoid any effects that might reduce the health or extent of the habitats. This can occur either directly, by impinging on the site, or indirectly, through emission, that can affect the natural resources, like clean water, which the habitat depends on. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the disturbance or wear and tear of visitor numbers to such sites.

Interesting history & culture

This is principally covered under '*Cultural Heritage*' and, to a lesser extent, under '*Human Beings*'. The principal issues being to avoid damage to sites and structures of cultural, historical, archaeological or architectural significance - and to their contexts or settings. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the wear and tear of visitor numbers to such sites.

Plenty of things to see and do.

This is not an environmental issue, though it is partially covered by the '*Human Beings*' section, where the tourism resources of an area are described and assessed.

Good range of natural attractions

This is covered by the '*Landscape*', '*Flora*', '*Fauna*', and '*Cultural Heritage*' sections of the EIS.

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4. Project factors affecting Tourism

Introduction

Tourism can be affected both by the structures or emissions of new developments as well as by interactions between new activities and tourism activities – for example the effects of high volumes of heavy goods vehicles passing through hitherto quiet, scenic, rural areas. Tourism can be affected by a number of the characteristics of the new project such as:

- New Developments
 - Social Considerations
 - Land-uses and Activities
-
- *New Developments* - will the development stimulate or suppress demand for additional tourism development in the area? If so, what type, how much and where? Marinas, golf courses, other major sporting facilities as well as theme parks and larger conference facilities can all stimulate the emergence of new accommodation, catering and leisure facilities often within an extensive area around a new primary visitor facility. Extensive urbanisation and large scale infrastructure as well as certain processing and extractive industries all have the potential to suppress demand for additional tourism – but usually only in the immediate locality of the new development. It should be noted however, that some types of new or improved large scale infrastructure – such as roads – can improve the visitor experience – by increasing safety and comfort or can convey a sense of environmental responsibility – such as wind turbines.
 - *Social Consideration* - will the development change patterns and types of activity and land use? Will it affect the demographics, economy or social dynamics of the locality?
 - *Land-use* - will there be encroachment, loss of rights of way or amenities, conflicts, or other changes likely to ultimately alter the character and use of the tourism resources in the surrounding area?

Existing Tourism

In the area likely to be affected by the proposed development, the following attributes of tourism, or the resources that sustain tourism, should be described under the following headings.

Note that the detailed description and analysis will usually be covered in the section dealing with the relevant environmental topic – such as '*Landscape*'. Only the relevant finding as to the likely significance to, or effect on, tourism needs to be summarised in this section.

Context

Indicate the location of sensitive neighbouring tourism resources that are likely to be directly affected, and other premises which although located elsewhere, may be the subject of secondary impacts such as alteration of traffic flows or increased urban development. The following should be noted in particular:

- Hotels, conference centres, holiday accommodation – including holiday villages, holiday homes, and caravan parks.
- Visitor centres, Interpretive centres and theme parks
- Golf courses, adventure sport centres and other visitor sporting facilities
- Marinas and boating facilities
- Angling facilities
- Equestrian facilities
- Tourism-related specialist retailers and visitor facilities
- Historic and Cultural Sites
- Pedestrian, cycling, equestrian, vehicular and coach touring routes

Indicate the numbers of premises and visitors likely to be directly affected directly and indirectly.

Identify and quantify, where possible, their potential receptors of impacts, noting in particular transient populations, such as drivers, walkers, seasonal and other non-resident groups.

Describe any significant trends evident in the overall growth or decline of these numbers, or of any changes in the proportion of one type of activity relative to any other.

Indicate any commercial tourism activity which likely to be directly affected, with resultant environmental impacts.

Character

Indicate the occupations, activities or interests of principal types of tourism in the area. – Where relevant, describe the specific environmental resources or attributes in the existing environment which each group uses or values; where relevant, indicate the time, duration or seasonality of any of those activities. For example describe the number of guides, boats and anglers who use a salmon fishery and the duration of the salmon season as well as the quantity and type of local accommodation that is believed to be used by the anglers.

Significance

Indicate the significance of the principal tourism assets or activities likely to be affected. Refer to any existing formal or published designation or recognition of such significance. Where possible provide an estimate of the contribution of such tourism activities to the local economy. For instance refer to the number of annual visitors to a tourism attraction or to the grading of a hotel.

Sensitivity

Describe any significant concerns, fears or opposition to the development known to exist among tourism interests. Identify, where possible, the particular aspect of the development which is of concern, together with the part of the existing tourism resource which may be threatened. For instance describe the extent of a potential visual intrusion onto a site of historic significance which is the main local tourist attraction.

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5. Impacts on Tourism

"Do Nothing" Impact;

Describe how trends evident in the existing environment will continue and how these trends will affect tourism.

Predicted impact;

- Describe the location, type, significance, magnitude/extent of the tourism activities or assets that are likely to be affected.
- Describe how the new development will affect the balance between long-established and new dwellers in an area and its affect on the cultural or linguistic distinctiveness of an area. For example describe the effect of a new multi-national population required for an international call-centre located in a Gaeltacht area.
- Describe how changes in patterns of employment, land use and economic activity arising from the proposed development will affect tourism, for example, illustrating how a new industrial development will diversify local employment opportunities thereby reducing the area's unsustainable over-reliance on seasonal tourism.
- Describe the consequences of change, referring to indirect, secondary and cumulative impacts on tourism; Examples can include describing how the new development may lead to a reduced assimilative capacity for traffic or water during the peak of the tourism season or how new urbanism combined with existing patterns of tourism may lead to unsustainable levels of pedestrian traffic through a sensitive habitat.
- Describe the potential for interaction between changes induced in tourism and other uses that may affect the environment - for instance increasing new tourism-related housing affecting water resources or structures
- Describe the worst case for tourism if all mitigation measures fail.

6. Mitigating adverse impact on Tourism

Describe the mitigation measures proposed to:

- *avoid* sensitive tourism resources – such as views, access, and amenity areas including habitats as well as historical or cultural sites and structures.
- *reduce* the exposure of sensitive resources to excessive environmental burdens arising from the development's emissions or volumes of traffic [pedestrian and vehicular], and/or losses of amenity arising from visually conspicuous elements of the development – for example by prioritizing visual screening of views from a hotel towards a quarry.
- *reduce* the adverse effects to tourism land uses and patterns of activities – especially through interactions arising from significant changes in the intensity of use or contrasts of character or appearance – for example by separating traffic routes for industrial and tourism traffic.
- *remedy* any unavoidable significant residual adverse effects on tourism resources or activities, for example by providing alternative access to tourism amenities – such as waterways or monuments.

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fax: 01 879 8333

email: info@nationaltransport.ie

web: www.nationaltransport.ie

Mr Jim Dowdall,
EnviroGuide Consulting,
93 Upper George's Street,
Dun Laoghaire,
Co Dublin.

19th December 2011

Re: Composting Facility for O'Toole Composting Ltd at Ballinrane, Fenagh, Co. Carlow

Mr Dowdall,

In response to your letter of the 25th November 2011, the National Transport Authority will not be submitting any information on the proposed composting facility at Ballinrane, Fenagh, Co. Carlow.

Yours sincerely,

Hugh Creegan

Director of Transport Planning and Investment

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6th December 2011

Jim Dowdall
Enviroguide Consulting
93 Upper George's Street
Dunlaoghaire
Co Dublin

Re: Composting Facility for O'Toole Composting Ltd at Ballinrane, Fenagh, Co. Carlow.

Dear Sir

I refer to the request for permission for the above development, details of which were received by the Irish Aviation Authority.

I wish to advise that we have no observations on this proposed development.

Yours sincerely

p.p. 
Martin Towey

Corporate Affairs

Bord Stiúrthóirí / Board of Directors

Anne Nolan (Cathaoirleach / Chairman), Eamonn Brennan
(Príomhfhéidhmeannach / Chief Executive) Lorraine Burke,
Pat Dalton, Peter G Ledbetter, Rosheen McGuckian,
Michael Norton, Geoffery O'Brine White, Claire O'Donnoghue

Oifig Chláraithe:

Foirgneamh na hAmanna, 11-12 Sráid D'Olier
Baile Átha Cliath 2, Éire
Uimhir Chláraithe: 211082. Áit Chláraithe: Éire
Cuidíochta Dílannais Thaircanta

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Data | Date 10th January 2012

Ar dTag. | Our Ref. NRA 11-83931

Bhur dTag. | Your Ref.

Re: EIS Scoping for proposed Intensification of Waste Intake at O'Toole Composting Ltd., Ballintrane, Fenagh, Co. Carlow

Dear Mr. Dowdall,

The Authority wishes to advise that it is not in a position to engage directly with planning applicants in respect to proposed developments. The Authority will endeavour to consider and respond to planning applications referred to it given its status and duties as a statutory consultee under the Planning Acts. The approach to be adopted by the Authority in making such submissions or comments will seek to uphold official policy and guidelines as outlined in NRA Circular 6/2006 "Policy Statement on Development Management and Access to National Roads" and other relevant circulars which are available at www.nra.ie. Regard should also be had to the Department of Environment, Heritage and Local Government *Spatial Planning and National Roads (Consultation Draft) Guidelines for Planning Authorities*.

The issuing of this correspondence is provided as best practice guidance only and does not prejudice the NRA's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred.

The applicants for any subsequent planning application will be aware that section 1.2 of the Development Management Guidelines (DoEHLG, 2007) outlines that pending the preparation of Departmental Guidelines concerning policy on development and national roads, relevant policy is as set out in the National Roads Authority's Circular Letter 7/2004.

Circular 7/2004 outlines that developments concerning extensions to commercial or industrial development outside the 30/40 m.p.h. (equivalent to 50 – 60km/h) (as applicable) speed limits on national roads should, inter alia, be subject to the requirement that no additional traffic would be generated by the development concerned or increased road safety hazard created.

In addition, the Spatial Planning and National Roads (Draft) Guidelines for Planning Authorities advise that development plans should make it clear that the policy of the planning authority will be to avoid the creation of additional access points from new development or the generation of increased traffic from existing accesses to national roads to which speed limits greater than 50 kph apply.

The Authority reserves the right to submit observations in relation to any detailed application referred by Carlow County Council or An Bord Pleanála in this regard and the following merely details recommendations in relation to an EIS Scoping request.

With respect to EIS scoping issues, the recommendations indicated below provide only general guidance for the preparation of EIS, which may affect the National Roads Network.

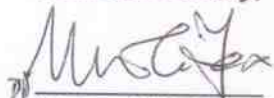
The developer should have regard, *inter alia*, to the following;

- Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes.
- The Authority would be specifically concerned as to potential significant impacts the development would have on any national roads in the proximity of the proposed development, N80;
- The developer should assess visual impacts from existing national roads;
- The developer should have regard to any Environmental Impact Statement and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should in particular have regard to any potential cumulative impacts;
- The developer, in conducting Environmental Impact Assessment, should have regard to the NRA DMRB and the NRA Manual of Contract Documents for Road Works;
- The developer, in conducting Environmental Impact Assessment, should have regard to the NRA's Environmental Assessment and Construction Guidelines, including the *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* (National Roads Authority, 2006);
- The EIS should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see *Guidelines for the Treatment of Noise and Vibration in National Road Schemes* (Rev., National Roads Authority, 2004));
- It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria or in accordance with best practice, a Traffic and Transport Assessment be carried out in accordance with relevant guidelines and best practice, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and associated junctions. As indicated above, the Authority is not in a position to engage directly with applicants in respect to proposed developments, however, it is advised that the Authority's Traffic and Transport Assessment Guidelines (2007) should be referred to in this regard. It is important that TTA would consider the cumulative impact of developments in the area and in addition, the applicant team should also consider Table 2.3 of the Guidelines which advise on circumstances where sub-threshold TTA may be warranted;
- The designers are asked to consult the National Roads Authority's DMRB *Road Safety Audit* (NRA HD 19/09) to determine whether a Road Safety Audit is required.

Notwithstanding, any of the above, the developer should be aware that this list is non-exhaustive, thus site and development specific issues should be addressed in accordance with best practise.

I hope that the above comments are of use in your scoping process.

Yours sincerely,



Michael McCormack
Policy Adviser (Planning)

Our Ref: PL 01.204497
P.A. Ref: 03/314

Jim Dowdall,
EnviroGuide Consulting,
93 Upper George's Street,
Dún Laoghaire,
Co. Dublin.

6th December, 2011.

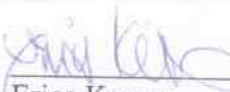
Appeal: Construction of an in-vessel tunnel composting facility, weighbridge, offices, site entrance, all site development infrastructure works, ancillary services and associated site works at Ballintrane, Fenagh, County Carlow.

Dear Mr. Dowdall,

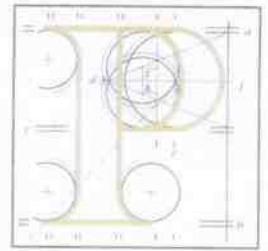
I have been asked by An Bord Pleanála to acknowledge receipt of your letter on the 30th November, 2011.

A further reply will issue as soon as possible.

Yours sincerely,


Erica Kearns
Administrative Assistant.

An Bord Pleanála



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J:/abp/trk/000/204497

Our Ref: PL 01.204497
P.A. Ref: 03/314

Jim Dowdall,
EnviroGuide Consulting,
93 Upper George's Street,
Dún Laoghaire,
Co. Dublin.

13th December, 2011.

Appeal: Construction of an in-vessel tunnel composting facility, weighbridge, offices, site entrance, all site development infrastructure works, ancillary services and associated site works at Ballinrane, Fenagh, County Carlow.

Dear Mr. Dowdall,

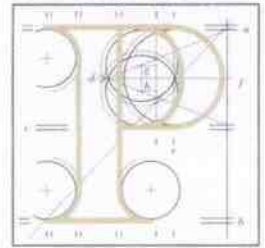
I have been asked by An Bord Pleanála to refer further to your letter dated the 25th November, 2011.

In response to your query regarding involvement of our regional or local offices, and in order to clarify the matter, please be advised that the planning system includes a comprehensive appeals process whereby all planning decisions made by planning authorities may be subject to *independent* review by An Bord Pleanála. It is not the case that An Bord Pleanála is a central office, with the various planning authorities being its regional or local offices, but rather that An Bord Pleanála is completely independent of the planning authorities, as is necessary in order to fulfil its main function in reviewing decisions of the aforementioned authorities, where a valid appeal has been lodged.

With regard to the issues to be addressed in the preparation of an environmental impact statement, in this instance it appears that either the Environmental Protection Agency or Carlow County Council or both will be the initial consenting authorities, and I would suggest that you contact their offices with any queries you may have in relation to same. It would be both inappropriate and beyond its remit for An Bord Pleanála, as the body charged with reviewing planning authority decisions that are appealed, to become involved in the process prior to any planning authority decision, should that be the position in relation to you query.

J:/abp/trk/000/204497

An Bord Pleanála



64 Sráid Maoilbhríde,
Baile Átha Cliath 1.

Tel: (01) 858 8100
LoCall: 1890 275 175
Fax: (01) 872 2684
Web: <http://www.pleanala.ie>
email: bord@pleanala.ie

64 Marlborough Street,
Dublin 1.

In relation to any information relevant to the proposed development that An Bord Pleanála may hold, as you may be aware, the site at Ballinrane had previously been the subject of an appeal [PL01.204497] regarding planning register reference number 03/314. This appeal was decided on the 9th Day of March, 2004, and the file is available to view through our Public Access section should you so wish. Copies of any documentation you may require are also available, though there would be an associated administrative charge. Public Access queries can be sent to publicaccess@pleanala.ie or they can be contacted by telephone on (01) 8737104.

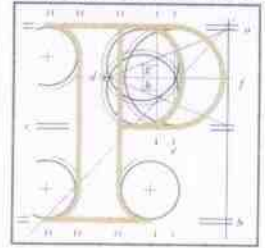
I hope this has been of some assistance to you,

Yours sincerely,


Justin Keane
Executive Officer.

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An Bord Pleanála



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Dubhín 1.

J:/abp/trk/000/204497

Jim Dowdall

From: info@enviroguide.ie
Sent: 06 December 2011 08:51
To: Jim Dowdall
Subject: Fw: Composting Facility for O'Toole Composting Ltd @ Ballinrane, Fenagh, Co. Carlow
Attachments: OToole Composting.pdf

From: [Stone, Joan](#)
Sent: Monday, December 05, 2011 11:16 AM
To: <mailto:info@enviroguide.ie>
Subject: Composting Facility for O'Toole Composting Ltd @ Ballinrane, Fenagh, Co. Carlow

I wish to acknowledge the receipt of your recent correspondence with this Department concerning the above proposal. The proposal is now being appraised. I will be in contact with you again when this process has been completed.

Kind Regards

Joan
Joan Stone
Climate Change Section
Department of Agriculture, Food & the Marine
Johnstown Castle Estate
Wexford
Tel: 053 91 70348 **Fax:** 053 91 43950

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Department of Agriculture, Food and Marine

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Tá an t-eolas san ríomhphost seo, agus in aon ceanglaí leis, faoi phribhléid agus faoi rún agus le h-aghaidh an seolai amháin. D'fhéadfadh ábhar an seoladh seo bheith faoi phribhléid profisiúnta nó dlíthiúil. Mura tusa an seolai a bhí beartaithe leis an ríomhphost seo a fháil, tá cosc air, nó aon chuid de, a úsáid, a chloipeál, nó a scaoileadh. Má tháinig sé chugat de bharr dearmad, téigh i dteagmháil leis an seoltóir agus scríob an t-ábhar ó do ríomhaire le do thoil.

Gillian Free

Environmental Consultant



93 Upper Georges Street | Dun Laoghaire | County
Dublin

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21st December, 2011

Mr. Jim Dowdall
Enviroguide Consulting
93 Upr. Georges Street
Dun Laoghaire
Co. Dublin

Re: Composting Facility for O'Toole Composting Ltd at Ballinrane, Fenagh, Co. Carlow

Dear Mr. Dowdall,

I refer to your recent correspondence concerning the above.

At this time, the Department of Agriculture, Food and the Marine has no obs/comments to make in regard to the application for a waste licence to the EPA.

Yours sincerely

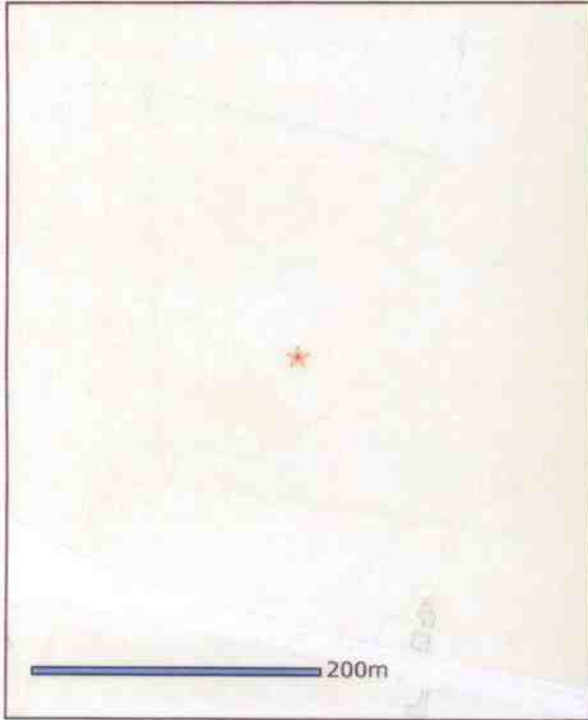
Noel O'Connor
Climate Change Section

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-003
 Related SMR number(s): None
 Class: Fulscht fia
 ITM Reference (E,N): 678293, 667961
 Irish Grid Reference (E,N): 278360, 167920
 Townland(s): BALLINTRANE
 Record of Monuments and Places: Yes



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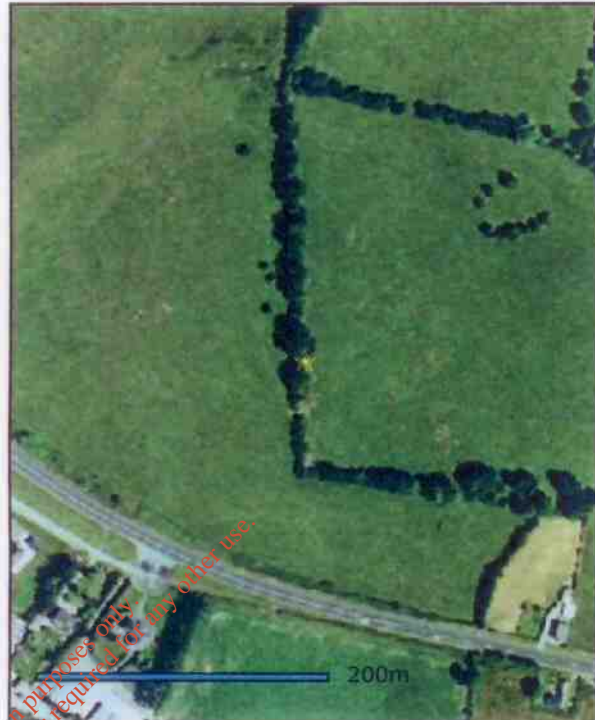
Small mound (diam. 10m; H c. 0.3m) in low-lying area of dried-out stream courses. Dark gravelly soil exposed by sheep. Second site (CW013-084---) c. 80m to W.

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-084
Related SMR number(s): None
Class: Foracht fia
ITM Reference (E,N): 678203, 667951
Irish Grid Reference (E,N): 278270, 167910
Townland(s): BALLINTRANE
Record of Monuments and Places: Yes

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Description: The following description is derived from the published 'Archaeological Inventory of County Carlow' (Dublin: Stationery Office, 1993). In certain instances the entries have been revised and updated in the light of recent research.

Date of upload/revision: 17 July 2007

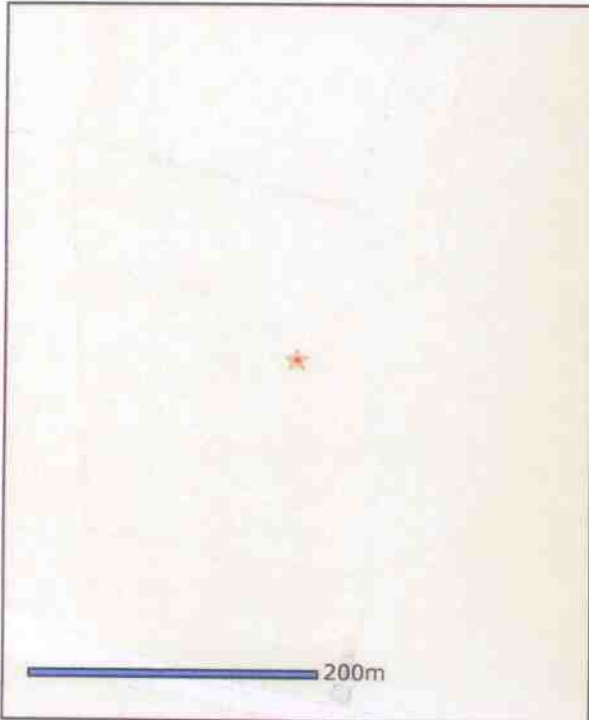
Low, circular mound (diam. 9m; H 0.3m). Probing indicated stones. On very slight W facing slope, slightly above dried-out stream course. Second site c. 80m to E (CW013-083---).

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-044
Related SMR number(s): None
Class: Enclosure
ITM Reference (E,N): 678344, 667996
Irish Grid Reference (E,N): 278411, 167955
Townland(s): BALLINTRANE
Record of Monuments and Places: Yes

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Description:

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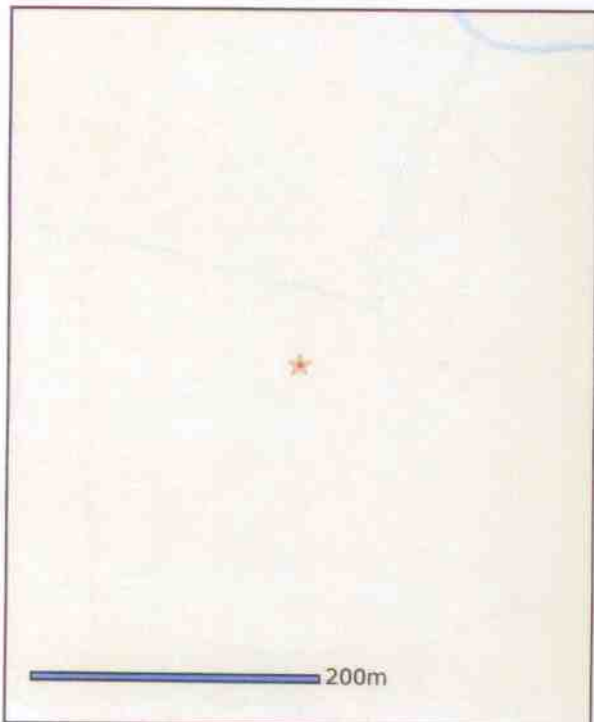
Approximately circular (diam. c. 45m) area, defined by and separated from ringfort (CW013-043----) to N by depressed crescentic area. Uneven interior. Rises to highest point S of centre.

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-013
Related SMR number(s): None
Class: Ringfort - rath
ITM Reference (E,N): 678341, 668058
Irish Grid Reference (E,N): 278408, 168017
Townland(s): BALLINTRANE
Record of Monuments and Places: Yes



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Description: The following description is derived from the published 'Archaeological Inventory of County Carlow' (Dublin: Stationery Office, 1993). In certain instances the entries have been revised and updated in the light of recent research.

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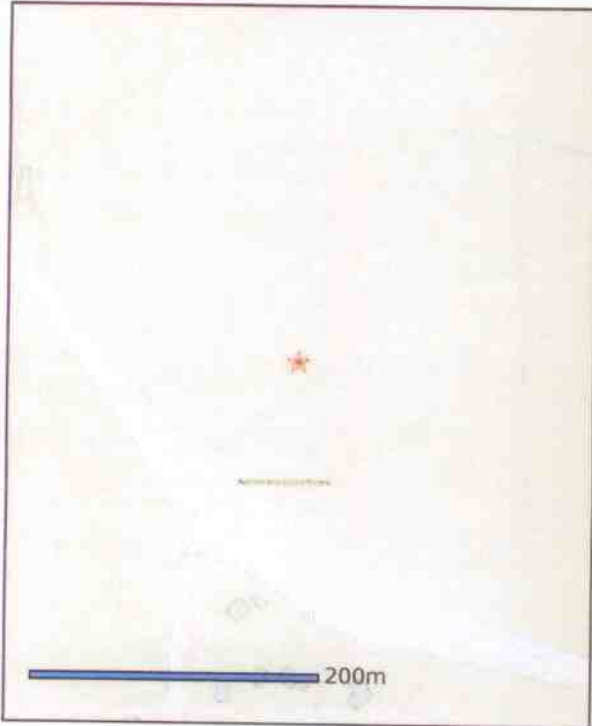
On slight rise in low-lying area. Regular circular platform (diam. 44m, H 0.6m) with very low narrow bank, possibly modern, on periphery (inside H 0.2m). Traces of fosse visible from NW-N-NNE. No visible surface traces of entrance. Second enclosure (CW013-044----) immediately S of ringfort.

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-042
Related SMR number(s): None
Class: Bullfin stone
ITM Reference (E,N): 678043, 667991
Irish Grid Reference (E,N): 278110, 167950
Townland(s): BALLINTRANE
Record of Monuments and Places: Yes

Description:

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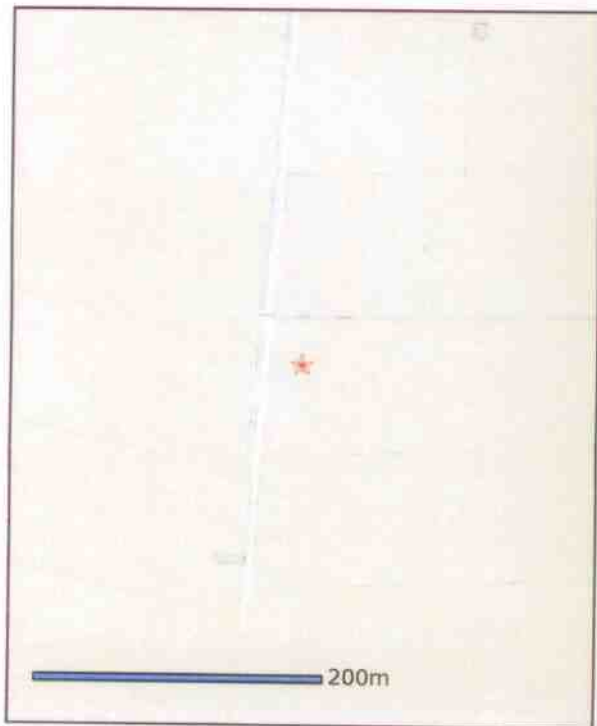
In exposed granite bedrock. Conical in section (diam. 0.3m; D 0.2m). Filled with water and stones.

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Archaeological Survey of Ireland

Record Details



SMR Number: CW013-06
Related SMR number(s): None
Class: Enclosure
ITM Reference (E,N): 678794, 666977
Irish Grid Reference (E,N): 278861, 166936
Townland(s): BALLINTRANE
Record of Monuments and Places: Yes



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Shown on 1908 'OS 6-inch' map as circular raised area (max. diam. c. 45m). No visible surface traces. Appears to have been on slight natural shelf in otherwise low-lying area.

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Air Dispersion Model Report for Waste Licence Application

O'Toole Composting

DOCUMENT CONTROL SHEET

Client	Enviroguide Consulting Ltd.					
Project Title	O'Toole Composting Waste Licence Application					
Document Title	Air Dispersion Model Report for Waste Licence Application					
Document No.	MDE1080Rp000					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	17	1	1	-

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
D01	Draft	P. Chadwick	C. Reilly	R. Murphy	West Pier	13/01/12
D02	Draft	P. Chadwick	C. Reilly	R. Murphy	West Pier	11/07/12

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1 INTRODUCTION

O'Toole Composting Ltd. operates an existing composting plant in the townland of Ballinrane, Co. Carlow. The plant has been in operation since 2004 and provides composting service for food and organic waste for a range of industries including canteens, restaurants, food production companies and hotels.

There are a series of planned developments at the site in future years with the potential for emissions to atmosphere and each of the following are considered in this report:

- Scenario 1: Upgrade of the existing biofilter at the operational composting unit (Operating Year 2012).
- Scenario 2: Composting Biofilter in addition to the installation of a new biofilter at the skip shed (Operating Year 2014).
- Scenario 3: Composting and Skip Shed Biofilters in addition to the installation of a new biofilter at the proposed reception shed for the AD plant (Operating Year 2016).
- Scenario 4: Combustion emissions from the CHP unit for the AD plant (2016).

RPS has followed the procedures presented in the EPA Guidance Note AG4 "Air Dispersion Modelling for Industrial Installations" in this assessment. RPS have employed the USEPA approved AERMOD Prime dispersion model to determine the impacts on the environment and at the nearest sensitive receptors. The results of the modelling are assessed against the relevant statutory limits, where available, and ambient air quality guidelines used internationally.

The modelling approach has allowed for the specification of emission guidelines for each phase of the development to minimise the potential for odour nuisance.

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2 EMISSIONS TO ATMOSPHERE

2.1 OVERVIEW

Given the nature of the sources on site this modelling exercise will establish the impacts of the following parameters:

- Odour Emissions (OU_E/m^3) from the biofilters (Scenarios 1 to 3)
- Combustion Emissions (NO_x , SO_2 , CO , Particulates) from the CHP for the AD Plant (Scenario 4)

As all sources are proposed installations and no source specific assessment can be undertaken, standard literature sources (such as BAT/BREF, TA Luft, etc.) are employed to determine the emission rates for each source.

2.2 BAT GUIDANCE

The EPA has prepared a BAT Guidance Note for the composting industry but this is still in development and has not been published. As a result, the parent BREF Note for the Waste Treatments Industries (2006) has been employed as a reference for this assessment. Section 5.2 of this BREF Note outlines what is considered BAT for specific types of waste treatments, including biological treatments such as composting. Table 2.1 presents the BAT levels of odour emissions from biological treatment of wastes following abatement expressed as a range of acceptable values. This BAT range will be used as the basis for determining suitable emission rates from the biofilters on site.

Parameter	Limit for Treated Exhaust Gas
Odour (OU_E/m^3)	<500 - 6,000

Table 2.1: BAT Emission Levels for Odour Discharges to Air

In terms of the main combustion gases (oxides of nitrogen, sulphur dioxide, carbon monoxide) there is no specified BAT limit presented in the BREF Guidance note.

2.3 TA LUFT GUIDANCE

The *Technische Anleitung zur Reinhaltung der Luft*, (TA-Luft) are German Government Guidelines for the control of air quality and are frequently used as a reference in emissions assessment in Ireland. These Guidelines are also used as a reference for many EPA BAT Guidance Notes. The TA Luft Guidelines detail the technical measures expected to be applied in different sectors of industry including methods for assessment. Originally published in 1986, the 2002 revision has been referenced for this report.

In relation to the combustion emissions, Paragraph 5.4.1.2.3 *Facilities for Generating Electricity, Steam, Hot Water, Process Heat or Heated Waste Gas in Furnaces using Gaseous Fuels (including biogas)* is considered applicable to this assessment. The emission guidelines presented for such facilities are presented in Table 2.2.

Parameter	Concentration Limit
Particulates (Dust)	5 mg/m ³
Carbon Monoxide	80 mg/m ³
Nitrogen Oxides	200 mg/m ³
Sulphur Oxides	350 mg/m ³

Table 2.2: TA Luft Combustion Gas Emission Guidelines

2.4 DISPERSION MODELLING

RPS has followed the procedures presented in the EPA Guidance Note AG4 "Air Dispersion Modelling for Industrial Installations" in this assessment. The model used for Air Dispersion Modelling was the US EPA approved AERMOD Prime model, which is the current regulatory model in the US and a recommended model under the EPA guidance. This model is a third generation model utilising advanced boundary-layer physics. AERMOD is run with a sequence of hourly meteorological conditions to predict concentrations at receptors for averaging times of one hour up to a year. It is necessary to use many years of hourly data to develop a better understanding of the statistics of calculated short-term hourly peaks or of longer time averages.

2.4.1 Source Information

Site specific data such as the locations and dimensions of the biofilters and CHP have been derived from the engineering drawings of the proposed operations. Where information is unknown valid assumptions have been applied and are clearly stated for each source. This information is presented in Table 2.3. Emissions from the biofilters and CHP were modelled assuming 24 hours, 365 days a year operations. It is proposed to engineer a stack (point source) from the biofilter on the composting unit as part of the planned upgrade and this source has been modelled as such.

Source	Source Type	Dimensions	Height (m)	Temp. (°C)	Flow (Nm ³ /hr)	Operational
Composting Unit Biofilter	Point	1m (diameter)	10	25	60,000	2012
Skip Shed Biofilter	Area	20.5 x 8.0 m	2	25	10,000	2014
AD Reception Biofilter	Area	30.0 x 8.0 m	2	25	15,000	2016
CHP Unit	Point	0.6m (diameter)	10	150	10,000	2016

Table 2.3: Emission point details for dispersion model

2.4.2 Background Concentrations

There is no database of information available on background odour concentrations. Given the rural location of the site, it is possible that agricultural activities in the area may give rise to occasional odours. However, for the purposes of this assessment, background odours have been assumed as zero, as per standard practice.

There is no EPA ambient air quality monitoring data for the rural Co. Carlow area where the site is located. As such, representative baseline air quality data has been derived from with reference to the EPA National Air Quality Monitoring Programme, Air Quality Zone D: Rural Ireland. A standard reference for Zone D background air quality is the Kilkitt Monitoring Station in Co. Monaghan.

The EPA used a continuous chemiluminescent analyser to determine nitrogen oxides (NO_x) concentrations at the Kilkitt station. The EPA data from 2003 to date are outlined in Table 2.4. Results indicate that the levels detected are below the relevant air quality limits for each year. The annual average NO₂ concentration of 3µg/m³ is typical of rural background locations and this is considered indicative of the area of the site. Similarly, the annual average NO_x concentration of 4µg/m³ is typical of rural background locations and this is considered indicative of the area of the site.

Statistic	Kilkitt 2003	Kilkitt 2004	Kilkitt 2005	Kilkitt 2006	Kilkitt 2007	Kilkitt 2008	Kilkitt 2009	Kilkitt 2010	AQ Limit
Annual Mean NO ₂ (µg/m ³)	3	3	2	3	2	3	3	3	40
Max 1-hour NO ₂ (µg/m ³)	71	43	33	58	53	80	50	32	200
NO ₂ Values >200µg/m ³	0	0	0	0	0	0	0	0	18
Annual Mean NO _x (µg/m ³)	3	4	4	4	3	4	3	4	30

Table 2.4: Results of NO_x Monitoring Carried out by the EPA in a Representative Zone D Site (Kilkitt, Co. Monaghan)

Particulate matter (PM₁₀) may be emitted as a primary pollutant from road vehicle exhausts, which is the main source in urban areas. In rural areas sources will include traffic, agricultural activities and natural processes. Also point sources such as combustion, i.e. domestic fires, industrial boilers etc. are primary sources of PM₁₀. PM₁₀ may also be formed as secondary pollutants from the condensation or reaction of chemical vapours in the atmosphere. Health effects associated with PM₁₀, in the long term, include chronic effects such as increased rates of bronchitis and reduced lung function. The EPA measured PM₁₀ from 2006 to date at the Kilkitt station and these results are presented in Table 2.5.

The concentrations of PM₁₀ detected at the Kilkitt station indicate an annual average of 10µg/m³. This is considered representative of a rural background PM₁₀ level typical of the study area. Particulate Matter (PM_{2.5}) has similar effects on health as PM₁₀, however, PM_{2.5} is a better indicator of anthropogenic (man-made) emissions. Fine particulate matter PM_{2.5} can be responsible for significant negative impacts on human health. Currently there is no monitoring of PM_{2.5} carried out at Zone D locations in Ireland. However, monitoring is being undertaken at Zones, A, B and C. The EPA published a research report entitled *Nature and Origin of PM₁₀ and Smaller Particulate Matter in Urban Air* (EPA, 2006) which examined the relationship between PM₁₀ and PM_{2.5} in Ireland. The study found that consistently between urban, rural and coastal locations in Ireland, the PM_{2.5} fraction of PM₁₀ is approximately 60%. This approximation is borne out by the PM_{2.5} values recorded in Ireland in 2008, 2009 and 2010 in Zone A, B and C locations. Applying this fraction to the EPA PM₁₀ data for Kilkitt station for 2006-2010 would provide an approximate PM_{2.5} annual average of 6 µg/m³ compared to the annual target value for the protection of human health of 25µg/m³. This level is considered indicative of the air quality in the study area.

Parameter	Statistic	Kilkitt 2006	Kilkitt 2007	Kilkitt 2008	Kilkitt 2009	Kilkitt 2010	AQ Limit
Particulate Matter (PM ₁₀)	Annual Mean (µg/m ³)	10	10	10	8	10	40
	Max 24-hour (µg/m ³)	47	73	57	55	42	50
	24-hour Values >50µg/m ³	0	2	1	1	0	35

Table 2.5: Results of PM₁₀ Monitoring Carried Out by the EPA in a Representative Zone D Site (Kilkitt, Co. Monaghan)

The EPA used a continuous fluorescent analyser to determine sulphur dioxide (SO₂) concentrations at the Kilkitt station. The EPA data from 2003 to date are outlined in Table 2.6. The air quality data from Kilkitt show background SO₂ concentrations (annual averages 3 µg/m³) below the relevant air quality limits for all averaging periods in the years 2003 to 2010. Levels are typical of rural background SO₂ concentrations and represent the annual average concentrations in rural areas in Ireland where there is an absence of major sources of SO₂.

Parameter	Statistic	Kilkitt 2003	Kilkitt 2004	Kilkitt 2005	Kilkitt 2006	Kilkitt 2007	Kilkitt 2008	Kilkitt 2009	Kilkitt 2010	AQ Limit
Sulphur Dioxide (SO ₂)	Annual Mean (µg/m ³)	7	3	3	2	2	4	4	2	20
	Max 1-hour (µg/m ³)	51	35	10	13	18	42	16	14	350
	1-hour Values >350µg/m ³	0	0	0	0	0	0	0	0	24
	24-hour Values >125µg/m ³	0	0	0	0	0	0	0	0	3

Table 2.6: Results of SO₂ monitoring carried out by the EPA in a representative Zone D site (Kilkitt Co. Monaghan)

No Carbon Monoxide (CO) monitoring has been continuously carried out in Zone D locations by the EPA in 2009 or 2010 due to the low levels detected in previous years. As such, an average of the Zone D levels detected in 2008 at Letterkenny and Cork Harbour is employed as a background for this assessment. This level is 0.4mg/m³ as an annual mean of CO.

2.4.3 Pathway (Meteorological files)

The most important parameters governing dispersion in the atmosphere are wind speed, wind-direction and the stability or turbulence of the atmosphere. These parameters along with the ambient temperature and inferred mixing heights for each hour were included in the modelling using data from an appropriate met station with validated met data.

The nearest met station to the site is the Kilkenny Station approximately 30km the west of the site. Model ready data was unavailable for this station so data from an alternative location was sought in accordance with the requirements of Section 6.1 of the AG4 Guidance. Section 6.1 of the AG4 Guidance Note requires that a meteorological station may be chosen with a mean annual wind speed ratio between 0.9 – 1.1 to estimate dispersion from the site.

Annual average wind speeds in the Carlow/Kilkenny area are recorded as 3.34 m/s at the Kilkenny Met Station (based on the 30 year average). Data from Birr indicates an annual average wind speed of 3.60 m/s (based on the 30 year average). As such the ratio between the two stations is 1.1 and within the recommended tolerance presented in the AG4 Guidance.

The AG4 Guidance requires a minimum of three years of met data to run a reliable dispersion model. In order to meet these requirements, three years worth of meteorological data (2003-2005) from the met station at Birr were employed in this modelling assessment. A sample year for Birr Met Station is presented as a windrose in Figure 2.1.

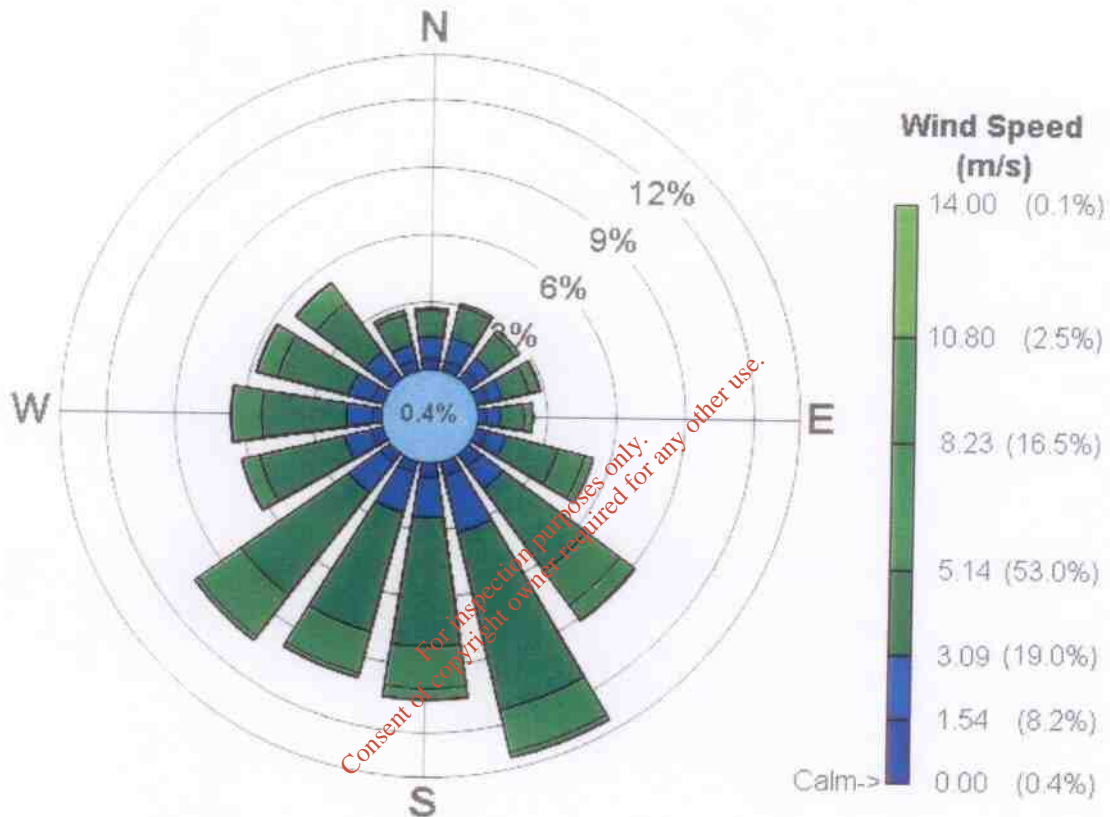


Figure 2.1: Windrose for the Birr Met Station for 2003

2.4.4 Geophysical Data

Any physical structure (such as a building) that is in close proximity to an exhaust point may hinder the dispersion characteristics through a phenomenon known as "building downwash". The potential for building downwash is dependent on the relative differences in height between the stack and the building. In this assessment the analysis suggests that the emission heights of the biofilters are not sufficient to meet the good engineering practice (GEP) recommendation of the US EPA and there is the potential for building downwash to occur. The AERMOD BPIP processor has been applied to all emission scenarios to ensure that building downwash has been fully accounted.

A review of the topography of the area indicates that the surrounding terrain is flat ("simple") with no complex features such as valleys, mountains, etc. As such, there is no requirement for importation of a terrain file into this model.

2.4.5 Receptors

A 3km x 3km Cartesian receptor grid has been incorporated into the model to simulate the spatial emissions trends from the proposed operation. The resultant ground level concentrations are presented as contour plots (isopleths) to demonstrate the impact and location of emissions.

In addition, discrete receptors have been identified as the nearest dwelling houses or groups of dwelling houses. The discrete receptors employed in the model are listed in Table 2.7 and presented in Figure 2.2.

Reference	Receptor
R1	Dwelling House to south of the site (Burrin Equestrian Supplies)
R2	Group of Dwelling Houses to the east of the site at Ballintrane Cross Roads on the N80
R3	Tinnaclash House to the north of the site
R4	Dwelling house to the west of the site on the N80

Table 2.7: Discreet Receptors employed in the model



Figure 2.2: Locations of Discrete Receptors

2.4.6 Assessment Criteria

There are no legislative limits relating to the impact of odour on residential or other receptors. Irish and UK guidance use a series of annoyance criteria for odours from various waste and industrial sources. These bands are described in Table 2.8. In general, the higher the odour risk posed by a facility the more stringent the annoyance criteria (e.g. a landfill would have to comply with annoyance criteria of $1.5 \text{ Ou}_E/\text{m}^3$, whereas a bakery would only have to comply with $6.0 \text{ Ou}_E/\text{m}^3$ due to the less unpleasant nature of the odour).

Given the nature of the waste operations at the site, it is considered appropriate to place the site in the high risk category and the relevant criteria for this assessment is $1.5 \text{ Ou}_E/\text{m}^3$ at the 98th percentile. These criteria are at the 98th percentile of the 1-hour average concentrations, which means they must be complied with 98% of the time. At this criteria the odours from the plant are not predicted to "give reasonable cause for annoyance" at the nearest sensitive receptors.

Activity	Risk	Indicative Criterion
Activities involving putrescible waste (eg Landfill), Processes involving animal or fish remains, Brickworks, Creamery, Fat & grease processing, Wastewater treatment, Oil refining, Livestock feed factory	High Risk	$1.5 \text{ Ou}_E/\text{m}^3$ at the 98 th percentile of 1-hour averages
Intensive livestock rearing, Fat frying (food processing), Sugar beet processing	Medium Risk	$3.0 \text{ Ou}_E/\text{m}^3$ at the 98 th percentile of 1-hour averages
Chocolate manufacture, Brewery, Confectionery, Fragrance and flavourings, Coffee roasting, Bakery	Low Risk	$6.0 \text{ Ou}_E/\text{m}^3$ at the 98 th percentile of 1-hour averages

Table 2.8: Odour Annoyance Criteria

The key legislation in Ireland relating to other pollutants in ambient air is the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011), which set limit concentrations for various pollutants for the protection of human health. A summary of the limits applicable to this assessment are presented in Table 2.9.

Pollutant	Limit Type	Value
Nitrogen Dioxide	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 $\mu\text{g}/\text{m}^3$ NO ₂
	Annual limit for protection of human health	40 $\mu\text{g}/\text{m}^3$ NO ₂
	Annual limit for protection of vegetation	30 $\mu\text{g}/\text{m}^3$ NO + NO ₂
Sulphur Dioxide	Hourly Limit Value for the Protection of human health not to be exceeded more than 24 times a calendar year	350 $\mu\text{g}/\text{m}^3$ SO ₂
	Daily Limit Value for the protection of human health not to be exceeded more than 3 times a calendar year	125 $\mu\text{g}/\text{m}^3$ SO ₂
	Annual limit value for the protection of ecosystems	20 $\mu\text{g}/\text{m}^3$ SO ₂
Carbon Monoxide	Limit value for the protection of human health Maximum daily 8-hour mean	10 mg/m^3 CO
Particulate Matter (PM ₁₀)	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 $\mu\text{g}/\text{m}^3$ PM ₁₀
	Annual limit for protection of human health	40 $\mu\text{g}/\text{m}^3$ PM ₁₀
Particulate Matter (PM _{2.5})	Annual target value for protection of human health	25 $\mu\text{g}/\text{m}^3$ PM _{2.5}

Table 2.9: Ambient Air Quality Limits as expressed in S.I. 190 of 2011

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3 MODELLING RESULTS

3.1 SCENARIO 1

Scenario 1 consists of the upgrade of the existing biofilter at the composting unit which is due to be fully operational in 2012. The input parameters for the biofilter are presented in Table 3.1 below. These emission values represent the operating scenario in 2012 when only this emission source will be an emission source. The emission factor employed in the model is based on the recommended BAT emission limit range (Table 2.1). The results of the model assessment are presented in Table 3.2 for the discrete receptors.

Parameter	Input
Source Type	Point
Dimensions (diameter)	1 m
Height	10 m
Temperature	25 ^o C (298K)
Volumetric Flow Rate	60,000 m ³ /hr
Emission Concentration	3,300 Ou _E /m ³

Table 3.1: Input Emission Factors for Scenario 1

Reference	Receptor	Receptor Type	Predicted Odour Concentration (Ou _E /m ³) 98 th Percentile of 1-hour averages
R1	Dwelling House to south of the site (Burrin Equestrian Supplies)	Residential	1.13
R2	Group of Dwelling Houses to the east of the site at Ballintrane Cross Roads on the N80	Residential	1.44
R3	Tinnaclash House to the north of the site	Residential	0.42
R4	Dwelling house to the west of the site on the N80	Residential	0.54
Limit for "High Risk" Odour Operations to prevent reasonable cause for annoyance			1.50

Table 3.2: Results of dispersion modelling on discrete receptors for Scenario 1.

The model indicates that the predicted odour emissions from the biofilter will be within the standard annoyance criteria for odour nuisance. The worst affected receptor are the group of dwelling houses to east of the site in line with the prevailing westerly wind. Odours are not predicted to "give reasonable cause for annoyance" at this property under the operating conditions presented in Table 3.1. The other receptors in the area will experience a lower impact and will not give rise to odour nuisance at these properties.

3.2 SCENARIO 2

Scenario 2 represents the emissions from the composting biofilter in addition to the installation of a new biofilter at the skip shed which is due to be operational from 2014. The input parameters for the biofilters are presented in Table 3.3 below. The emission factors employed in the model are based on the recommended BAT emission limit range (Table 2.1). The results of the model assessment are presented in Table 3.4 for the discrete receptors.

Parameter	Composting Biofilter	Skip Shed Biofilter
Source Type	Point	Area
Dimensions	1 m (diameter)	20.5 x 8.0 m
Height	10 m	3 m
Temperature	25°C (298K)	25°C (298K)
Volumetric Flow Rate	60,000 m ³ /hr	10,000 m ³ /hr
Emission Concentration	3,000 Ou _E /m ³	800 Ou _E /m ³

Table 3.3: Input Emission Factors for Scenario 2

Reference	Receptor	Receptor Type	Predicted Odour Concentration (Ou _E /m ³) 98 th Percentile of 1-hour averages
R1	Dwelling House to south of the site (Birr, Equestrian Supplies)	Residential	1.21
R2	Group of Dwelling Houses to the east of the site at Ballintrane Cross Roads on the N80	Residential	1.46
R3	Tinnaclash House to the north of the site	Residential	0.44
R4	Dwelling house to the west of the site on the N80	Residential	0.54
Limit for "High Risk" Odour Operations to prevent reasonable cause for annoyance			1.50

Table 3.4: Results of dispersion modelling on discrete receptors for Scenario 2.

The model indicates that from 2014, the predicted odour emissions from the biofilters will be within the standard annoyance criteria for odour nuisance. The emission value for the composting biofilter is reduced to account for the additional contribution of the skip shed biofilter. Odours are not predicted to "give reasonable cause for annoyance" at any property.

3.3 SCENARIO 3

Scenario 3 represents the emissions from the composting and skip shed biofilters in addition to the installation of a new biofilter at the proposed reception shed for the AD plant which is scheduled to be operational in 2016. The input parameters for the cumulative emission model from all biofilters are as per those presented in Tables 3.5. The results of the model assessment are presented in Table 3.6 for the discrete receptors.

Parameter	Composting Biofilter	Skip Shed Biofilter	AD Plant Biofilter
Source Type	Point	Area	Area
Dimensions	1 m (diameter)	20.5 x 8.0 m	30.0 x 8.0 m
Height	10 m	3 m	3 m
Temperature	25 ^o C (298K)	25 ^o C (298K)	25 ^o C (298K)
Volumetric Flow Rate	60,000 m ³ /hr	10,000 m ³ /hr	15,000 m ³ /hr
Emission Concentration	2,500 Ou _E /m ³	800 Ou _E /m ³	800 Ou _E /m ³

Table 3.5: Input Emission Factors for Scenario 3

Reference	Receptor	Receptor Type	Predicted Odour Concentration (Ou _E /m ³) 98 th Percentile of 1-hour averages
R1	Dwelling House to south of the site (Barr Equestrian Supplies)	Residential	1.11
R2	Group of Dwelling Houses to the east of the site at Ballinrane Cross Roads on the N80	Residential	1.49
R3	Tinnaclash House to the north of the site	Residential	0.46
R4	Dwelling house to the west of the site on the N80	Residential	0.42
Limit for "High Risk" Odour Operations to prevent reasonable cause for annoyance			1.50

Table 3.6: Results of dispersion modelling on discrete receptors for Scenario 3.

The model indicates that with the predicted odour emissions from all biofilters simultaneously at the prescribed emission concentrations in 2016, the impact at the nearest sensitive receptors will be within the standard guidelines for odour nuisance. Again, the emission value for the composting biofilter is reduced to account for the additional contribution of the AD plant biofilter.

3.4 SCENARIO 4

Scenario 4 of this modelling assessment represents the emissions of combustion gases from the proposed CHP unit at the AD Plant. The emission factors employed in the model are based on the TA Luft Guidelines for the combustion of biogas as presented in Table 2.2. The emission parameters employed are presented in Table 3.7.

Parameter	Model Value
Source	CHP
Type	Point
Diameter	0.6 m
Emission Height	10 m
Volumetric Flow	10,000 m ³ /hr
Temperature	150 °C (423K)
Particulates (Dust)	5 mg/m ³
Carbon Monoxide	80 mg/m ³
Nitrogen Oxides	200 mg/m ³
Sulphur Oxides	350 mg/m ³

Table 3.7: Scenario 4 Combustion Emission Factors from the CHP

The results of the Scenario 4 Combustion Emissions are presented in Table 3.8 and presented graphically as contoured isopleths in Figures 3.1 and 3.2 (for 1-hour and annual average NO₂). Background concentrations have been included in the tabulated results but not in the graphical results. It should be noted that the results presented in Table 3.8 represent the receptor that will experience the maximum ground level concentration (GLC) and all other receptors will be lower than those presented in Table 3.8. All results are compared against the statutory limits for the protection of human health as presented in Table 2.9.

Parameter	Averaging Period	Background	Ground Level Concentration (Incl Background)	Limit as per SI 180 of 2011
Nitrogen Oxides (as NO ₂) (µg/m ³)	1-hour ^{Note 1}	8	51.39	200
	Annual	4	6.82	40
Sulphur Dioxide (µg/m ³)	1-hour ^{Note 2}	6	72.25	350
	24-hour ^{Note 3}	3	25.21	125
Particulates (µg/m ³)	24-hour ^{Note 4}	10	10.19	50
	Annual	10	10.07	40
Carbon Monoxide (mg/m ³)	8-hour	0.4	0.41	10

Table 3.8: Results of modelling of Scenario 4 Combustion Emissions

- Note:
1. 1-hour average is presented as the 99.8th percentile of averages as per the limit value.
 2. 1-hour average is presented as the 99.7th percentile of averages as per the limit value.
 3. 24-hour average is presented as the 99.1th percentile of averages as per the limit value.
 4. 24-hour average is presented as the 90.4th percentile of averages as per the limit value.

The results of the modelling assessment indicate that emissions at the emission values will not have an adverse impact on air quality in the area. All levels will remain within the statutory ambient limits for the protection of human health. Each combustion gas is discussed in the following paragraphs:

Nitrogen Dioxide (NO₂)

In terms of NO₂, the highest annual average ground level concentration at the nearest sensitive receptor is 2.82µg/m³ which, on top of a background of 4µg/m³, results in an overall impact of 6.82µg/m³. This is approximately 17% of the annual limit for the protection of human health. The maximum impact is predicted to occur to the east of the facility, consistent with the south-westerly prevailing winds. This is also demonstrated by the spatial plume in Figure 3.1 for annual average NO₂ which indicates the location of the maximum ground level concentration.

The maximum 1-hour NO₂ shows a similarly compliant level at the nearest sensitive receptor (51.39 µg/m³ including background) and will not breach the annual limit for the protection of human health (200µg/m³) at any location. The spatial trend shown in Figure 3.2 indicates that the maximum impact will be dispersed to the west of the site with the maximum impact predicted to be to on the site. This is primarily due to the fact that as a 1-hour maximum the prevailing wind is less of dominant force and typically the 1-hour maximum is associated with calmer conditions and light easterly winds when the plume "lingers" in an area.

Sulphur Dioxide (SO₂)

The SO₂ levels predicted at the nearest receptors are also below the limits for the protection of human health at the relevant 1-hour and 24-hour limits. The maximum 1-hour average GLC is predicted to be 72.25 µg/m³ on top of a background of 6µg/m³ leading to levels approximately 21% of the limit for the protection of human health. The maximum 24-hour GLC (25.21 µg/m³) is approximately 20% of the limit for the protection of human health (125µg/m³).

Carbon Monoxide (CO)

The results for carbon monoxide indicate that only trace levels (less than 1% of the 8-hour limit) will be experienced at the maximum GLCs. As such, the operation of the CHP at the emission level specified will have a negligible impact on carbon monoxide levels in the area.

Particulates

The predicted levels of particulate are very low and indicate no breaches of the annual or 24-hour limits for the protection of human health. The predicted levels are approximately 25% of the limit and this is principally a result of the naturally high background. This data is modelled at the TA Luft emission value of 5mg/m³.

Summary

The results of the modelling of combustion emissions from the proposed CHP source indicate that at the emission levels specified in Table 3.7, the impact to air quality will be negligible and there will be no adverse impact to human health in the area. These emission levels are based on the TA Luft Guidance for the combustion of biogas.

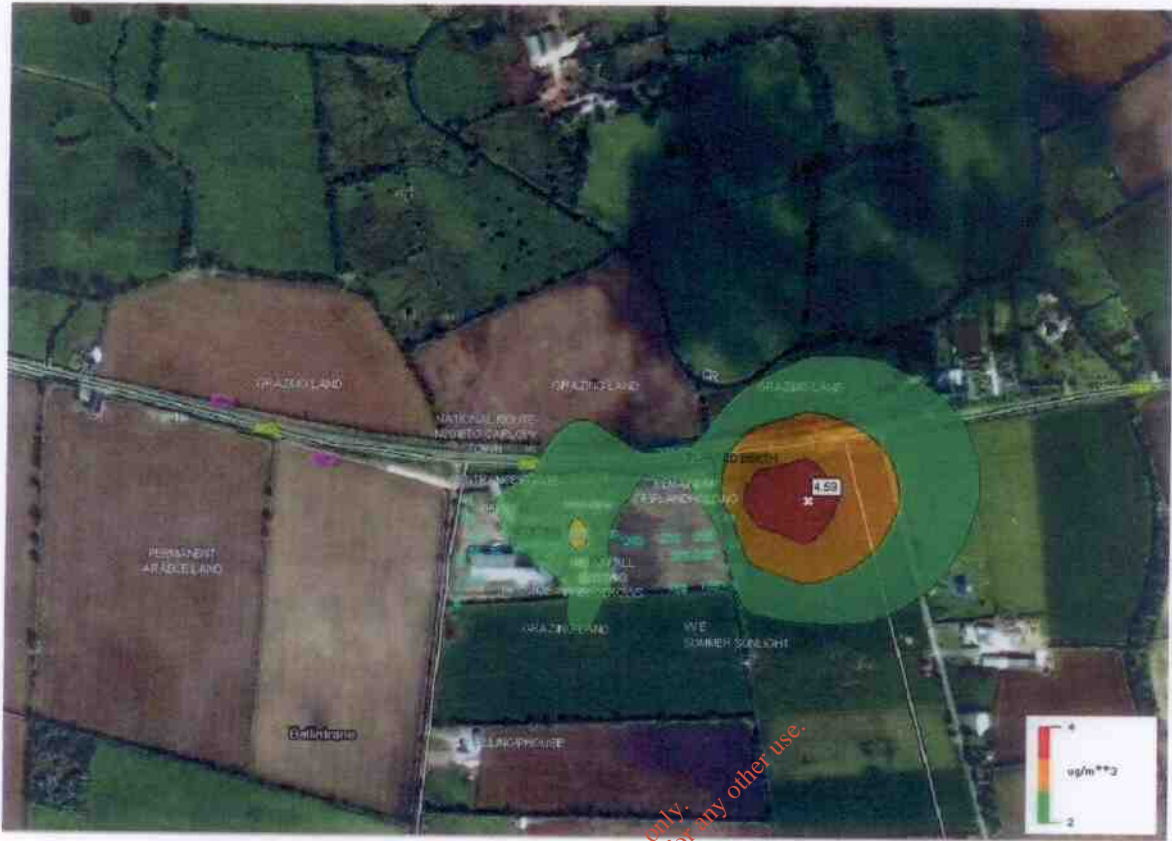


Figure 3.1: Scenario 4, Annual Average NO₂ Concentrations (Contours represent 4µg/m³, 3µg/m³ and 2µg/m³). Backgrounds not included. Statutory limit for the protection of human health 40µg/m³ (as NO₂).

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Figure 3.2: Scenario 4, 1-hour NO₂ Concentrations (Contours represent 60µg/m³, 50µg/m³ and 40µg/m³). Backgrounds not included. Statutory limit for the protection of human health 200µg/m³ (as NO₂).

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4 CONCLUSIONS

A refined dispersion model assessment has been undertaken to simulate the emissions from the proposed developments at O'Toole Composting, Carlow. The modelling procedure has followed that presented by the EPA in Guidance Note AG4. The modelling has assessed the impact of both odours from three biofilters and combustion emissions from a CHP unit which will operate as part of the AD Plant.

As all sources are planned a review of suitable emission concentrations has been carried out using standard BREF, BAT and TA Luft references. For all sources the emission concentrations employed comply with these reference documents. The results of the modelling exercise indicate that emissions at the concentrations outlined in the following tables will not give rise to odour nuisance or impacts to human health from the operational facility.

Table 4.1 outlines the modelled emission rates of the three proposed biofilters at the facility over the development lifetime of the three biofilter units. Emission values are presented on a phased basis as modelled in this report and emissions at these values will not give rise to odour nuisance in the vicinity of the development. These emission concentrations are based on the acceptable emission range outlined in the BREF Note for the Waste Treatment Industries. The results indicate that at these levels the impact of all biofilters operating under the various phases will be within the acceptable criteria for odour nuisance.

Source	Parameter	2012 Emission Value	2014 Emission Value	2016 Emission Value
Composting Unit Biofilter	Odour (Ou_E/m^3)	3,300	3,000	2,500
Skip Shed Biofilter	Odour (Ou_E/m^3)	-	800	800
AD Reception Biofilter	Odour (Ou_E/m^3)	-	-	800

Table 4.1: Modelled Odour Emission Values for the Biofilters

Table 4.2 presents the modelled emission rates of the CHP at the facility, based on the TA Luft Guidelines for the combustion of biogas. The results of the modelling exercise show that emissions at the prescribed levels do not breach any of the statutory limits for the protection of human health. As such, it can be concluded that the combustion emissions will not have a significant impact on air quality in the area.

Parameter	Value Unit	Emission Value
Volume Flow	Volume Flow (m^3/hr)	10,000
Nitrogen Oxides	Concentration (mg/m^3)	200
Sulphur Oxides	Concentration (mg/m^3)	350
Carbon Monoxide	Concentration (mg/m^3)	80
Particulates	Concentration (mg/m^3)	5

Table 4.2: Modelled Combustion Emission Values for the CHP

In summary, the proposed operation of the O'Toole Composting facility at the emission levels prescribed above will not result in odour nuisance or impact to human health at the nearest sensitive receptors.