



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

Closed Landfill Recommended Certificate of Authorisation

Certificate of Authorisation Number:	H0089-01
Certification of Authorisation Holder:	Cork County Council
Location of Facility:	Kealanine (Kealinine), County Cork

INTRODUCTION

This introduction is not part of the certificate of authorisation and does not purport to be a legal interpretation of the certificate of authorisation.

This certificate of authorisation is for the remediation, restoration and aftercare of a closed landfill.

The closed landfill at Kealanine (Kealinine) is situated between Glengarrif and Bantry, 1.5km off the N71 primary route that connects them. The closed landfill is on the southern slopes of Cobduff (380mOD) at an elevation between 109m and 119m with an area of 1.82 hectares. The disposal of waste at the closed landfill ceased in November 1997.

The landfill is located in a rugged area with bedrock outcrops forming ridges separated by areas of blanket peat. Rough grazing of horses and sheep is carried out. A stream running along the southern boundary predates the development of the landfill. The nearest house is within 400m to the east and another is some 450m away. The next nearest house is 750m.

An estimated 90,000m³ of waste was disposed of at the landfill including municipal waste, industrial waste and hazardous waste, including wastewater sludge, end-of-life vehicles, offal and oily waste. Some oily waste from the Whiddy Island disaster in 1979 was blended with municipal waste and deposited in the eastern section of the landfill. Site investigations turned up plastic bags, refuse sacks, packaging, glass, ceramics, metal and timber.

The principal environmental risk associated with the closed landfill is the generation and migration of leachate into the shallow aquifer and local surface waters.

This certificate of authorisation authorises the completion of the remedial works proposed by Cork County Council.

The certificate of authorisation sets out the conditions under which Cork County Council will manage this facility. A validation report is to be prepared on completion of the works to confirm satisfactory remediation has taken place.

Glossary of Terms

All terms in this **certificate of authorisation** should be interpreted in accordance with the definitions in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008) unless otherwise defined in the certificate of authorisation.

Agreement	Agreement in writing.
Annually	At approximately twelve-monthly intervals.
Application	The application by the certificate of authorisation holder for this certificate of authorisation.
Authorised Activities	Activities required by the risk assessment or this certificate of authorisation.
Certificate of authorisation	Includes this document and the risk assessment dated June 2014 submitted with the application.
Certificate of authorisation holder	Cork County Council
Closed landfill	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Code of Practice	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Biannually	All or part of a period of six consecutive months.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Environmental damage	As defined in Directive 2004/35/EC.
Environmental Pollution	As defined in the Waste Management Act 1996 as amended.
EPA	Environmental Protection Agency.

Incident	<p>The following shall constitute as incident for the purposes of this certificate of authorisation:</p> <ul style="list-style-type: none">(i) an emergency;(ii) any emission which does not comply with the requirements of this certificate of authorisation;(iii) any trigger level specified in this certificate of authorisation which is attained or exceeded; and(iv) any indication that environmental pollution has, or may have, taken place.
Inert waste	<p>Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.</p>
Maintain	<p>Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.</p>
National Environmental Complaints Procedure	<p>As developed by the Network for Ireland's Environmental Compliance and Enforcement (NIECE).</p>
Necessary measures	<p>As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.</p>
Risk assessment	<p>As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.</p>
Sample(s)	<p>Unless the context of this document indicates to the contrary, the term sample or samples shall include measurements taken by electronic instruments.</p>
The Agency	<p>Environmental Protection Agency.</p>
The Regulations	<p>Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008)</p>
Trigger level	<p>A parameter value the achievement or exceedance of which requires certain actions to be taken by the certificate of authorisation holder.</p>
Water Services Authority	<p>Cork County Council</p>

Part I Authorisation of a closed landfill

In pursuance of the powers conferred on it by the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (the Regulations), the Environmental Protection Agency (the Agency) **proposes**, under Regulation 7(5) of the said Regulations, **to grant** this certificate of authorisation to **Cork County Council** in respect of the closed landfill at **Kealanine (Kealinine)**, subject to conditions set out in the certificate of authorisation.

Reasons for decision

In **proposing to grant** this certificate of authorisation, the Agency determines in accordance with Regulation 7(7)(a) of the Regulations that the risk assessment submitted by **Cork County Council** as part of the application for a certificate of authorisation is adequate. In accordance with Regulation 7(7)(b) of the Regulations, to ensure appropriate protection for human health and the environment and to ensure conformity with the provisions of Council Directive 2006/12/EC and Council Directive 80/68/EC, the conditions set out in Part II of this certificate of authorisation are specified as further necessary measures in addition to those identified by the risk assessment.

Part II Conditions

Condition 1. Scope

1.1 Statutory Obligations

This certificate of authorisation is for the purposes of regulating a closed landfill under the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 only and nothing in this certificate of authorisation shall be construed as negating Cork County Council's statutory obligations or requirements under any other enactments or regulations.

1.2 For the purposes of this certificate of authorisation, the closed landfill authorised by this certificate of authorisation is the area of land outlined in **red** on **Figure 1 of the Risk Assessment dated June 2014 and provided to the Agency in correspondence dated 21/12/2016**. Any reference in this licence to "closed landfill" shall mean the area thus outlined in **red**.

1.3 No waste shall be accepted for recovery or disposal at the closed landfill unless authorised by this certificate of authorisation. No waste shall be burned at the closed landfill. Waste may be accepted for utilisation at the closed landfill in accordance with the conditions of this certificate of authorisation.

1.4 No alteration to, or reconstruction in respect of, the closed landfill, or any part thereof, that would, or is likely to, result in

(i) a material change or increase in:

- the nature or quantity of any emission;
- the abatement/treatment or recovery systems;

- the range of processes to be carried out;
 - the fuels, raw materials, intermediates, products or wastes generated, or
- (ii) any changes in:
- site management, infrastructure or control with adverse environmental significance;

that does not already form part of this certificate of authorisation or the risk assessment shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.

- 1.5 The facility shall be controlled, operated and maintained, and emissions shall take place, as authorised by this certificate of authorisation. All programmes required to be carried out under the terms of this certificate of authorisation become part of this certificate of authorisation.
- 1.6 Nothing in this certificate of authorisation shall be construed as necessarily prohibiting any future beneficial uses of the site of the closed landfill that do not interfere with the integrity of the remediation measures adopted or put in place or cause environmental pollution to be released as a result of the presence of the deposited waste.

Reason: To clarify the scope of this certificate of authorisation.

Condition 2. Notifications, Records and Reports

- 2.1 Cork County Council shall notify the Agency by both telephone and either email or webform to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any incident. Cork County Council shall include as part of the notification, the date and time of the incident, summary details of the occurrence and where available, the steps taken to minimise any emissions or discharges. The incident notification shall be provided in a format as may be specified and in accordance with any relevant guidance issued by the Agency.
- 2.2 Cork County Council shall as a minimum keep the following documents at the headquarters of Cork County Council or such other office as may be agreed by the Agency:
- (i) the certificate of authorisation application and all associated documentation including the risk assessment;
 - (ii) this certificate of authorisation;
 - (iii) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the risk assessment, this certificate of authorisation and/or guidance produced by the Agency;
 - (iv) records of incidents, including the nature, extent, and impact of, and circumstances giving rise to, the incident, and all corrective actions taken

to manage the incident, to minimise the effect on the environment, and to avoid recurrence;

- (v) records of all complaints of an environmental nature related to the closed landfill in accordance with the national environmental complaints procedure. A record shall also be kept of the response and remediation action taken in the case of each complaint;
- (vi) relevant correspondence with the Agency;
- (vii) up to date drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and discharge points;
- (viii) up to date operational procedures for all monitoring and control equipment necessary to give effect to this certificate of authorisation;
- (ix) the verification report prepared on completion of the agreed remediation; and
- (x) other documentation required by this certificate of authorisation or as may be otherwise directed by the Agency.

This documentation shall be available to the Agency for inspection and to members of the public at all reasonable times.

2.3 All reports prepared in accordance with this certificate of authorisation shall be certified accurate and representative by the relevant Director of Services or a nominated, suitably qualified and experienced deputy.

2.4 Environmental Liabilities

Cork County Council shall prepare, and update every three years, or five years if agreed with the Agency no less than three years following grant of this certificate of authorisation, a statement as to the measures taken or adopted in relation to the prevention of damage to the environment, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events or accidents/incidents, as may be associated with discharges or emissions from the closed landfill. The statement of measures shall be prepared in accordance with any relevant guidance issued by the Agency.

2.5 Cork County Council shall pay to the Agency a contribution or such sum as the Agency from time to time determines having regard to variations in the extent of reporting, auditing, inspections, sampling and analysis or other functions carried out by the Agency as the Agency considers necessary for the performance of its functions under the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 in relation to the closed landfill regulated by this certificate of authorisation.

Reason: To provide for the collection and reporting of adequate information on the activity. To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.

Condition 3. Management of the closed landfill

- 3.1 Having regard to the risk assessment carried out under Regulation 6(1) of the Regulations, Cork County Council shall implement the following measures within **12 months** of the date of grant of this certificate of authorisation:
- a) **Prepare the landfill profile to ensure top and side slopes will provide for a stable cap and facilitate rainwater run-off to drainage.**
 - b) **Install a landfill cap comprising:**
 - **topsoil and subsoil, minimum 500mm;**
 - **drainage layer, permeability 1×10^{-4} m/s, 500mm;**
 - **compacted mineral layer, permeability 1×10^{-9} m/s, 600mm, or geosynthetic material that provides equivalent protection;**
 - **gas collection layer, 300mm.**
 - c) **In the area of the cap around the rock outcrop, design and install the cap to prevent localised seepages into or out of the landfill.**
 - d) **Install a passive gas venting system in the cap and at the perimeter of the closed landfill.**
 - e) **Install and maintain stock-proof fencing at an appropriate location on the perimeter of the closed landfill for as long as it is needed to protect ongoing works and the establishment of grass on the cap.**
 - f) **Minimise the disturbance of deposited waste to the extent possible.**
- 3.2 Cork County Council shall manage the closed landfill to ensure that discharges and emissions from the closed landfill do not cause environmental pollution or deterioration in the status of the receiving surface water body or groundwater body.
- 3.3 Cork County Council shall compile a validation report in accordance with the requirements of chapters 7.3 and 8.2.4 of the Code of Practice. Unless otherwise agreed **by the Agency**, the validation report shall be submitted to the Agency within **30 months** of the date of grant of this certificate of authorisation.
- 3.4 Annual assessment
- 3.5.1 Cork County Council shall, as a minimum, **bi-annually** assess the closed landfill and carry out analyses, on-site or through sampling for laboratory analysis, to confirm that the closed landfill has not, compared to earlier assessments, failed to achieve the objectives set for it in the risk assessment or this certificate of authorisation. The frequency of assessment may be amended by agreement with the Agency no less than two years following grant of this certificate of authorisation.
- 3.5.2 Unless otherwise agreed with the Agency, assessment shall include:
- a) a visual inspection of the landfill to ensure that:
 - (i) the condition of the site has not deteriorated,

- (ii) there is no evidence of an incident having occurred, and
- (iii) any measures required by Condition 3.1 are effective and are being maintained as required;
- b) **bi-annual** monitoring to detect the presence of leachate in all available leachate monitoring boreholes;
- c) **bi-annual** sampling, analysis and characterisation of leachate, if present, from at least two leachate monitoring boreholes;
- d) **bi-annual** monitoring to detect the presence and determine the character of landfill gas in all available monitoring boreholes (**parameters as identified in the Risk Assessment**);
- e) **bi-annual** sampling of surface water from the **stream** upstream and downstream of the closed landfill (**parameters as identified in the Risk Assessment**);
- f) **bi-annual** sampling, analysis and characterisation of groundwater from at least two available groundwater monitoring boreholes, one of which shall be downstream of the closed landfill (**parameters as identified in the Risk Assessment**); and
- g) the assessment of the results of this monitoring against trigger levels and/or standard reference values for relevant pollutants including environmental quality standards in the European Communities Environmental Objectives (Surface Waters) Regulations 2009 and **European Communities Environmental Objectives (Groundwater) Regulations 2010**.
- h) inspection of the cap to ensure no seepage of leachate is taking place at the rock outcrop and elsewhere.**

3.5.3 The certificate of authorisation holder shall develop and maintain groundwater and surface water monitoring and leachate and landfill gas trigger levels.

- 3.5 The location, methods and scope of monitoring, sampling and analyses, as set out in this certificate of authorisation, may be amended with the agreement of the Agency following evaluation of test results.
- 3.6 Any waste imported for use in remedial, corrective or other engineering works at the closed landfill shall be:
- a) **limited to greenfield soil and stone**; and
 - b) managed and utilised in a manner that does not cause environmental pollution.

Documented waste acceptance, storage/stockpiling and utilisation procedures, to include mitigation measures against environmental pollution, shall be in place and operational in advance of receipt of such materials. Records shall be maintained that demonstrate that waste utilisation at the facility complied with the requirements of this condition.

- 3.7 No emissions, including odours and noise, from works carried on at the site shall result in an impairment of, or an interference with amenities or the environment

beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.

3.8 Cork County Council shall ensure that all or any of the following:

- vermin
- birds
- flies
- mud
- dust
- litter

associated with the closed landfill do not result in an impairment of, or an interference with, amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary. Any method used by Cork County Council to control or prevent any such impairment/interference shall not cause environmental pollution.

3.9 Wells and boreholes

- a) All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines “Decommissioning Redundant Boreholes and Wells”, unless otherwise agreed by the Agency.
- b) Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency’s landfill manual “Landfill Monitoring”.
- c) All wellheads shall be adequately protected to prevent contamination or physical damage.

3.10 Cork County Council shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the risk assessment or this certificate of authorisation. The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.

3.11 Incidents

- a) In the event of an incident Cork County Council shall immediately:
 - (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (ii) isolate the source of any such emission;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) notify the Agency and other relevant authorities.
- b) Where an incident or accident that significantly affects the environment occurs, Cork County Council shall, without delay take measures to limit

the environmental consequences of the incident or accident and to prevent further incident or accident.

- c) In the case of any incident relating to discharges to water, Cork County Council shall notify the Water Services Authority and Inland Fisheries Ireland as soon as practicable after such an incident.

Draft certificate of authorisation Sign off

Signed on behalf of the said Agency

On the xx day of xxxxx, 2017 xxxxxxxxxxxxxx

Authorised Person