

This report has been cleared for submission by *Marie O'Connor* Marie O'Connor, Programme Manager. Eve O'Sullivan, Programme Officer. Dated 25/02/2021



**OFFICE OF ENVIRONMENTAL
SUSTAINABILITY**

**REPORT OF THE TECHNICAL COMMITTEE ON REPRESENTATIONS MADE ON A
DRAFT CERTIFICATE OF AUTHORISATION**

TO: Board of Directors

FROM: Anne Lucey, Technical Committee, Environmental Licensing Programme

DATE: 25 February 2021

RE: Representation on draft Certificate of Authorisation issued to **Monaghan County Council** for a closed landfill at **Killycard, Castleblayney, County Monaghan.**

Certificate of Authorisation Register Number **H0364-01.**

APPLICATION DETAILS

Type of facility:	Closed landfill as defined in the Regulations ¹ .
Application received:	15 January 2020
Draft Certificate issued:	01 September 2020
First party representation received:	18 September 2020

1. Background to this report

The site is located 1km to the north-west of Castleblayney in Co. Monaghan and covers an area of 2.2ha. The site is privately owned and is surrounded by agricultural lands to the north, south and east. On the western border lies Corrinshigo Lough, to the north Corrinshigo stream and to the south-west an open channel. There are commercial and agricultural buildings within 50m of the site and five dwellings within 250m, the nearest of which is located 50m from the south-western boundary. Although a precise operational period is unknown, the landfill was operational circa 1980 – 1987, and contains approximately 45,000 tonnes of municipal solid waste (MSW). Currently, the site is mostly used for grazing animals but there are also a number of commercial and industrial units present. These will be dismantled, with the exception of two, and post remediation the site will continue to be used for animal grazing.

The risk assessment has categorised the site as high risk (Class A) with the pollutant linkages identified as:

¹ Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008).

- Migration of leachate, via surface water drainage/runoff, to surface water bodies; and
- Human health exposure pathway of off-site lateral migration of landfill gas into nearby houses

2. Consideration of the Representation

This report considers one valid first party representation from Monaghan County Council in relation to a number of requirements set out in the draft Certificate of Authorisation which are summarised below.

The representation should be referred to at all times for greater detail and expansion of particular points.

The Technical Committee (TC) comprising of Anne Lucey (Chair) has considered all the issues raised in the representation and this report details the Committee's comments and recommendations following the examination of the representation.

2.1 Condition 1.5 "...beneficial uses of the site..."

The applicant states that the landowner has indicated an intention to develop the site for commercial development in the future. The applicant wishes to clarify if this condition precludes any such development from taking place in the future or whether development can progress provided it can be demonstrated that any potential development will not interfere with the integrity of the remediation measures adopted on site.

Technical Committee's Evaluation:

The Technical Committee considers that the condition does not preclude development from taking place in the future, provided that there is no interference with the remediation measures adopted. In order to clarify the condition further and remove any ambiguity regarding this intent, the TC proposes the amendment outlined below.

Reason for Decision:

The Technical Committee propose to amend condition 1.5 as set out below and has reached its decision having regard to the following reason:

- To provide clarity on the intent of the condition.

Recommendation: Amend Condition 1.5 to read as follows:

1.5 Nothing in this Certificate of Authorisation shall prohibit authorised beneficial uses of the site of the closed landfill **provided** that **such uses** do not interfere with the integrity of the remediation measures adopted.

2.2 Condition 3.2 Site Notice Board

The applicant suggests that the site notice board is only erected prior to commencement of the remediation works rather than the required one month following the granting of the Certificate of Authorisation. The applicant is of the opinion that erecting the notice board within one month gives the impression that remediation works would be due to commence shortly, which in reality would not be the case due to the planning and procurement works required.

Technical Committee's Evaluation:

The TC acknowledges the suggestion made by the applicant but considers the notice board to be necessary to provide information and contact details in relation to the closed landfill and the intended remediation works, including the requirements set out in the Certificate of Authorisation. The TC therefore considers it important that the notice board be erected in a timely manner as set out in condition 3.2 rather than prior to commencing remediation works. The TC however recommends amending condition 3.2(b)(iv) which relates to the contact telephone number "in relation to the remediation works". The TC considers that the contact phone number is provided for all matters related to the closed landfill site as set out in the Certificate of Authorisation and not just in relation to the remediation works.

Reason for Decision:

The Technical Committee propose to amend condition 3.2 as set out below and has reached its decision having regard to the following reason:

- To provide information to the public on the closed landfill.

Recommendation: Amend Condition 3.2 to read as follows:

3.2 Site Notice Board

(b) The board shall clearly show:

- (iv) The contact telephone in relation to the **closed landfill site**; and

2.3 Condition 2.4 Environmental Liabilities

The applicant suggests that this condition is removed considering the site is closed >30 years. The applicant also states that they are of the opinion that such a condition may be more appropriate to an active landfill, an opinion they understand was also derived from previous discussions between their Regional Historical Landfill Coordinator and a named OEE (Office of Environmental Enforcement) Inspector. The applicant states that during the construction stage of the remediation works, they can ensure that the main contractor has the appropriate insurance to cover incidents/accidents during the remediation works.

Technical Committee's Evaluation:

The TC considers it necessary that financial resources are provided for the remediation of the closed landfill and for any incident that may arise. For this reason and following consultation with the OEE Waste and Financial Provision Team, the TC proposes to amend condition 2.4 to account for this requirement. It is also recommended to remove the "Environmental Liabilities" header of condition 2.4 and to replace the financial references in the footer of condition 2 in the Certificate of Authorisation with "resources" to reflect the amended condition 2.4 appropriately.

Reason for Decision:

The Technical Committee propose to amend condition 2.4 and the footer of condition 2, and to delete the header of condition 2.4 as set out below, and has reached its decision having regard to the following reason:

- To provide financial resources for the remediation of the closed landfill and for any incidents that may arise.

Recommendation: Delete Condition 2.4 “Environmental Liabilities” header.

Amend Condition 2.4 to read as follows:

2.4 The local authority shall assign the necessary resources, including financial, to complete the remediation measures specified in the risk assessment or this Certificate of Authorisation and to respond to any incident.

Amend Condition 2 footer to read as follows:

Reason:	<i>To provide for the collection and reporting of adequate information on the activity. To provide for adequate resources for monitoring and measures to protect the environment.</i>
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2.4 Condition 3.1 “...implement the following measures within 18 months...”

The applicant suggests that the specified timeframe of 18 months should be removed from any Certificate of Authorisation as the implementation of any measures on site within such a timeframe is not realistic or practical. The applicant highlights a number of time impacting factors including funding, planning consent, procurement of consultants and contractors, approvals by the Agency and the duration of time to complete the works.

Technical Committee’s Evaluation:

The TC acknowledges the factors identified by the applicant but considers it appropriate that a timeframe is retained within the condition to ensure that works are completed within a timely manner. Additionally, the TC notes that the condition contains the provision “...or as otherwise agreed by the Agency” in relation to the timeframe. However, the TC recommends that the timeframe is increased to 24 months having regard to the concerning factors highlighted by the applicant and to the nature of the measures required by condition 3.1 including; the removal of waste deposited in Corrinshigo Lough and stream, the installation of monitoring systems for landfill gas, leachate and groundwater, landfill capping and grass reseeding. This should ensure that adequate time is allowed for the appropriate planning, preparation, implementation and verification of all the required measures.

Reason for Decision:

The Technical Committee propose to amend condition 3.1 as set out below and has reached its decision having regard to the following reason:

- To provide an adequate timeframe for completion of all required measures.

Recommendation: Amend Condition 3.1 to read as follows:

3.1 The local authority shall implement the following measures within **24** months of the date of grant of this Certificate of Authorisation, or as otherwise agreed by the Agency:

2.5 Condition 3.1(i) “Install at least three groundwater monitoring boreholes...”

The applicant states that lands outside of the waste body are outside the control of Monaghan County Council and would require prior agreement with the landowner(s). The applicant further states that they are not in a position to confirm whether such an approval would be forthcoming and suggest that the requirement is removed from the draft Certificate of Authorisation.

Technical Committee's Evaluation:

The TC notes from the Tier 3 assessment that it is known from the site investigation that the groundwater table transects the waste material and that the modelling results show that there is a likely ongoing risk to groundwater quality beneath and downstream of the site. Considering the aquifer vulnerability of the site is extreme, the TC considers groundwater monitoring necessary in order to assess the impact of the site on groundwater quality and to determine the effectiveness of the remediation measures on preventing the generation and dispersion of leachate. It is also noted by the TC that there is a private water well located <1km south-west of the site and that the groundwater flow is towards the west /south-west.

The TC acknowledges that effective groundwater monitoring upstream and downstream of the site will not be possible without the installation of monitoring boreholes outside the waste body, and subsequent site boundary, on privately owned lands. However, as the Regulations² only provide for access to lands where the closed landfill is situated, any permission granted from relevant landowners outside the boundary can only be on a voluntary basis. As the importance of groundwater monitoring has been outlined, the TC recommends that condition 3.1(i) is retained, but amended to include 'Unless otherwise agreed by the Agency'. This will enable the consideration of alternative options for groundwater monitoring, if available, in the event permission is not granted by private landowners to access lands, install groundwater monitoring boreholes and complete scheduled monitoring requirements. The TC also recommends that the same amendment is added to condition 3.1(h) which requires the installation of three gas monitoring boreholes outside the waste body and potentially the site boundary.

Reason for Decision:

The Technical Committee propose to amend condition 3.1(i) and 3.1(h) as set out below and has reached its decision having regard to the following reason:

- To provide for alternative monitoring arrangements if required.

Recommendation: Amend Condition 3.1(i) to read as follows:

3.1 (i) **Unless otherwise agreed by the Agency**, install at least three groundwater monitoring boreholes, of which one shall be upgradient of the waste body and two of which shall be downgradient of the waste body;

Amend Condition 3.1(h) to read as follows:

3.1 (h) **Unless otherwise agreed by the Agency**, install at least three gas monitoring boreholes outside the waste body, of which one shall be upgradient of the waste body and two of which shall be downgradient of the waste body;

2.6 Condition 3.5 "...within six months of the date of grant of this Certificate of Authorisation, obtain an agreement from Irish Water for the acceptance of the landfill leachate..."

The applicant states that the timeframe in which any agreement can be obtained is largely the remit of Irish Water and references another site where the agreement process has lasted greater

² Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008).

than six months. The applicant contends that the agreement should only come into play if and when leachate collection starts on site.

Technical Committee's Evaluation:

The TC notes from the modelling results in the Tier 3 assessment that there is an expected reduction in leachate generation of c.90% from the installation of a low permeability cap, resulting in a leachate generation rate of 3,724 L/day. It is noted that modelled projections assume that all leachate generated is directly dependent on rainfall infiltration. The TC also notes that the landfill cap will include a vertical cut off and leachate interception trench, to break the pathway linkage between the landfill waste and the boundary drain and lough, and that this trench will be drained to a collection sump, followed by a collection tank – the source of the leachate to be removed from site. The TC considers that the modelled daily leachate generation rate is not insignificant and regardless of volume, appropriate arrangements must be in place for its removal off-site. This is particularly important considering no information is available as to the storage quantity or integrity status of the sump or tank. The TC acknowledges that the time frame is dependent on obtaining the authorisation from Irish Water. However, it further considers that it is essential that the authorisation is obtained in a prompt manner and recommends that a timeframe is linked to seeking the authorisation and that the duration to obtain authorisation is extended. The TC also recommends the addition of a new condition requiring the integrity testing of the leachate sump and tank.

Reason for Decision:

The Technical Committee propose to amend condition 3.5 as set out below and insert a new condition in relation to integrity testing. The TC has reached its decision having regard to the following reason:

- To provide for appropriate management of leachate on site.

Recommendation: Amend Condition 3.5 to read as follows:

3.5 The local authority shall, within **three** months of the date of grant of this Certificate of Authorisation, **seek authorisation** from Irish Water for the acceptance of the landfill leachate at the Waste Water Treatment Plant, **and obtain such authorisation within 12 months of the date of grant of this Certificate of Authorisation.**

Insert new Condition to read as follows:

3.20 **The integrity and water tightness of all tanks, bunding structures, containers and associated relevant underground pipes and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.**

2.7 Condition 3.6 "...compile a validation report..., the validation report shall be submitted to the Agency within 30 months..."

The applicant references the issues previously outlined in relation to the timeframe for completing the measures required under condition 3.1, as outlined in section 2.4 above. Consequently, the

applicant suggests that the requirement for submitting the validation report within 30 months is removed from the condition.

Technical Committee's Evaluation:

The TC considers it appropriate that a timeframe is retained within the condition to ensure that the validation report is completed within a timely manner. Taking account of the additional time recommended in relation to condition 3.1 above, the TC recommends that an additional six months is also provided in relation to the submission of the validation report. This will ensure that adequate time is allowed to assess if remediation objectives have been achieved.

Reason for Decision:

The Technical Committee propose to amend condition 3.6 as set out below. The TC has reached its decision having regard to the following reason:

- To provide an adequate timeframe for submission of the validation report.

Recommendation: Amend Condition 3.6 to read as follows:

3.6 The local authority shall compile a validation report in accordance with the requirements of the Code of Practice. Unless otherwise agreed, the validation report shall be submitted to the Agency within **36** months of the date of grant of this Certificate of Authorisation.

2.8 Condition 3.1 (d) "Install passive gas venting system..." and Condition 3.1 (m) "...seek agreement of the Agency regarding whether to carry out a gas pumping trial"

The applicant states that the draft Certificate of Authorisation requires the installation of a passive gas venting system within 18 months, in accordance with condition 3.1 (d), yet requires a decision as to whether a gas pumping trial is required after a period of 12 months of gas monitoring results, as per condition 3.1 (m). The applicant suggests that this needs clarification in the final Certificate of Authorisation.

Technical Committee's Evaluation:

The TC notes that the Tier 3 assessment report states that the landfill cap will include active and/or passive landfill gas controls and that a final decision on control measures will be made upon completion of a landfill gas pumping trial. The purpose of the pumping trial being to determine the quantity and quality of landfill gas actively produced at the site. The TC also notes from the Tier 2 report that the highest monitoring result for methane was 1.5% (v/v). The TC considers that condition 3.1 (m) is necessary if the applicant wishes to pursue a gas pumping trial and notes that the condition sets out that a decision on a trial is made after a period of gas monitoring. The TC considers this requirement to be prudent based on the low methane monitoring results reported in the Tier 2 report. Having regard to the EPA report³ on the Management of Low Levels of Landfill Gas, it is unlikely that the methane, at the concentrations reported, would be suitable for utilisation or flaring. The TC therefore considers it necessary that condition 3.1 (d) is also retained, as a passive gas venting system is deemed to be appropriate to manage landfill gas at the reported low levels. To ensure clarity on the purpose of condition 3.1 (m), the TC recommends amending the condition to include "for the purpose of gas utilisation". It is also recommended to replace the word fans with cowls in condition 3.1 (d) to correctly reflect the equipment utilised in a passive gas venting system.

³ EPA (2011) Management of Low Levels of Landfill Gas.

Reason for Decision:

The Technical Committee propose to amend condition 3.1 (d) and 3.1 (m) as set out below. The TC has reached its decision having regard to the following reason:

- To provide clarity on the purpose and requirements of the conditions.

Recommendation: Amend Condition 3.1 (d) and 3.1 (m) to read as follows:

3.1 (d) Install passive gas venting system, which includes gravel filled vent trench with **cowled vents** for gas extraction along the eastern edge of the capped area. The gas venting system shall meet the following requirements:

- (i) The base of the trench shall be constructed at the depth of the maximum depth of the waste body;
- (ii) Gas vent pipes with **cowls** shall be installed within the trench every 20m and at other locations, as appropriate, such that the increased back-pressure caused by the cap does not result in increased lateral movement of gas;

3.1 (m) The local authority shall, following gas monitoring, as required under Condition 3.9(c), for a period of twelve months, seek agreement of the Agency regarding whether to carry out a gas pumping trial **for the purpose of gas utilisation**; and

2.9 Condition 3.8/3.9 "...submit to the Agency, by the 31st March of each year, an annual update covering the previous calendar year. This update...shall include as a minimum the information specified in Condition 3.9..."

The applicant seeks clarification on whether an annual report is required prior to remediation works being carried out on site or will it only be required upon completion of remediation works.

Technical Committee's Evaluation:

As the conditions of a Certificate of Authorisation are applicable on issue of the final decision, the TC considers that the annual update will be applicable each year from that point forward. Furthermore, condition 3.8 requires that the annual update shall include as a minimum the information specified in condition 3.9 of the Certificate of Authorisation. Condition 3.9 sets out the monitoring requirements for the closed landfill, which are also applicable on issue of the final decision. Consequently, the TC recommends no change to condition 3.8.

Recommendation: No change.

2.10 Condition 3.9 (b) Monitoring (sample, analyse, characterise, and measure the level) on a quarterly basis of leachate in all leachate monitoring boreholes;

The applicant states that no parameters appear to be specified in the Certificate of Authorisation in relation to leachate monitoring.

Technical Committee's Evaluation:

The TC acknowledges that no parameters are specified within condition 3.9 (b), however, the condition requires that leachate is sampled, analysed and *characterised*. This enables the applicant to establish suitable analytical parameters in order to determine the characteristics of

the leachate being generated. The TC also notes that condition 3.9 (f) requires the assessment of the monitoring results against standard reference values for relevant pollutants including environmental quality standards in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, and European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended. For clarity, the TC recommends amending the condition to include a minimum number of parameters which must be analysed when completing monitoring. The parameters identified are intended to reflect the risks from the migration of leachate into the surface water receptor and the underlying aquifer as outlined in the site assessment reports.

Reason for Decision:

The Technical Committee propose to amend condition 3.9 (b) as set out below and has reached its decision having regard to the following reason:

- To provide for appropriate minimum monitoring parameters.

Recommendation: Amend Condition 3.9 (b) to read as follows:

3.9 (b) Monitoring (sample, analyse, characterise, and measure the level) on a quarterly basis of leachate in all leachate monitoring boreholes. **The monitoring shall, as a minimum, include the following parameters: Biochemical Oxygen Demand (BOD) (mg O₂/l), Total Ammonia (mg N/l), Molybdate Reactive Phosphorus (MRP) (mg P/l), Heavy Metals and Coliforms.**

2.11 Condition 3.9 (a) "A visual inspection of the landfill..." and Condition 3.18 (b) "Quarterly surveys of filled areas for the detection of the growth of invasive species"

The applicant notes that an annual visual inspection of the landfill is specified whereas quarterly surveys of filled areas for the detection of the growth of invasive species is also specified. The applicant requests the quarterly surveys to be carried out annually as part of the landfill inspection instead.

Technical Committee's Evaluation:

The TC considers that quarterly surveys for the detection of the growth of invasive species is prudent during landfill remediation works and the implementation of the invasive species prevention and eradication plan in order to actively monitor and prevent dispersion. However, the TC notes that condition 3.18 (f) requires validation to confirm the absence of invasive species following the implementation of the prevention and eradication plan and considers it appropriate to move to annual surveys if validation is successful. The TC therefore recommends amending condition 3.18 (b) to require quarterly surveys during remediation works and the implementation of the invasive species plan and annual surveys, following validation, to confirm the absence of invasive species in accordance with Condition 3.18(f). The TC also recommends that surveys are completed for the facility rather than "filled areas" which may be open to interpretation. The TC further recommends that condition 3.10, which permits the amendment of the location, frequency, methods and scope of monitoring, sampling and analyses is amended to include "surveys". This will enable further changes to survey frequencies if required.

Reason for Decision:

The Technical Committee propose to amend condition 3.18 and 3.10 as set out below and to insert a new condition for annual surveys for invasive species. The TC has reached its decision having regard to the following reason:

- To provide for proportionate monitoring requirements.

Recommendation: Amend Condition 3.18 (b) to read as follows:

3.18 (b) Quarterly surveys of **the facility** for the detection of the growth of invasive species **during remediation works and during the implementation of the invasive species prevention and eradication plan, and annual surveys following validation in accordance with Condition 3.18(f).**

Amend Condition 3.10 to read as follows:

3.10 The location, frequency, methods and scope of **surveys**, monitoring, sampling and analyses, as set out in this Certificate of Authorisation, may be amended with the Agreement of the Agency.

2.12 Condition 3.19.2 The Communications Programme shall inform members of the public what they can and should do to protect their property and health.

The applicant suggests that this condition is removed considering the site is closed >30 years and the proposed remediation works will remove the risks identified. The applicant also states that they are of the understanding that such communication conditions were the subject of previous discussions between their Regional Historical Landfill Coordinator and a named OEE Inspector, which concluded with the opinion that such a condition was more appropriate for licenced landfill sites.

Technical Committee's Evaluation:

The TC considers that the Communications Programme provides an important method for informing members of the public about the closed landfill and associated remediation activities. In relation to condition 3.19.2, the TC considers that the Communications Programme should inform the public on what they can and should do to protect their property and health when and if a risk to property and health arises e.g. in the event of an incident or an unmitigated risk. The TC therefore recommends no change to condition 3.18.2

Recommendation: No change.

3. Appropriate Assessment – Technical Committee Review

The TC has reviewed the Inspector's Appropriate Assessment in the Inspector's Report and, taking into account the representation received, and the content of this TC report, the TC is satisfied that the Inspector's Report provides an adequate examination and evaluation of the effects of the activities on the European Sites concerned, Dundalk Bay SAC (Site Code: 000455), Dundalk Bay SPA (Site Code: 004026) and Slieve Guillion NI SAC (Site Code: UK0030277), in the light of their conservation objectives.

4. Recommendation

It is recommended that the Board of the Agency grant a certificate of authorisation to the applicant

- (i) for the reasons outlined in the Draft Certificate of Authorisation,
- (ii) subject to the conditions and reasons for same in the Draft Certificate of Authorisation, and
- (iii) subject to the changes recommended in this report.

Signed

Anne Lucey

Anne Lucey

Inspector

for and on behalf of the Technical Committee

Date 25 February 2021