



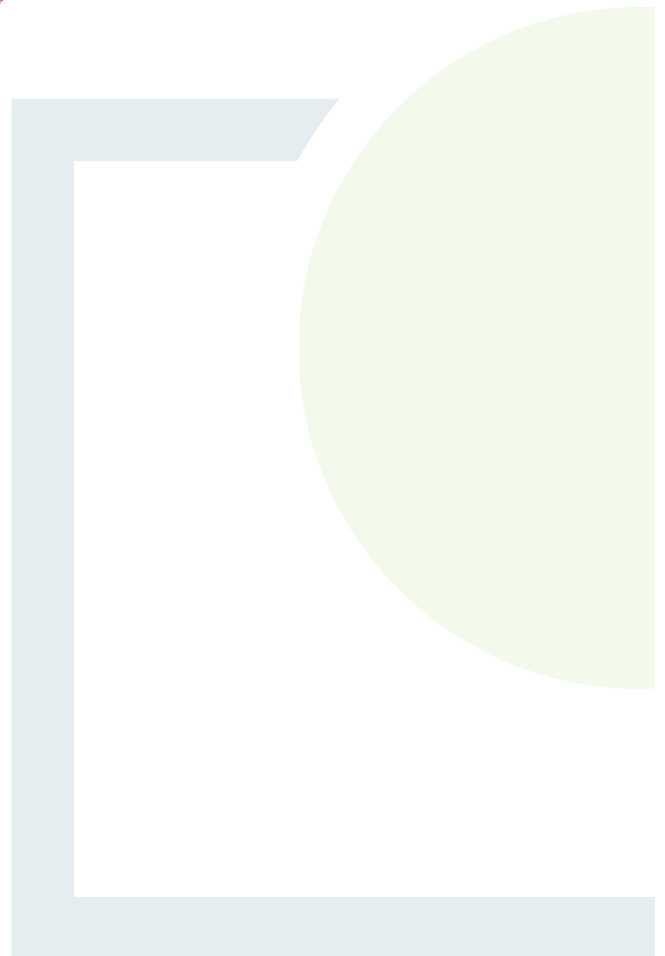
**FEHILY
TIMONEY**

**CONSULTANTS IN ENGINEERING,
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Attachment A.1

Non-Technical Summary

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CONSULTANTS IN ENGINEERING,
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HISTORICAL LANDFILL AT LENAMORE, CO. KERRY

NON- TECHNICAL SUMMARY

Prepared for: Kerry County Council



Comhairle Contae Chiarraí
Kerry County Council

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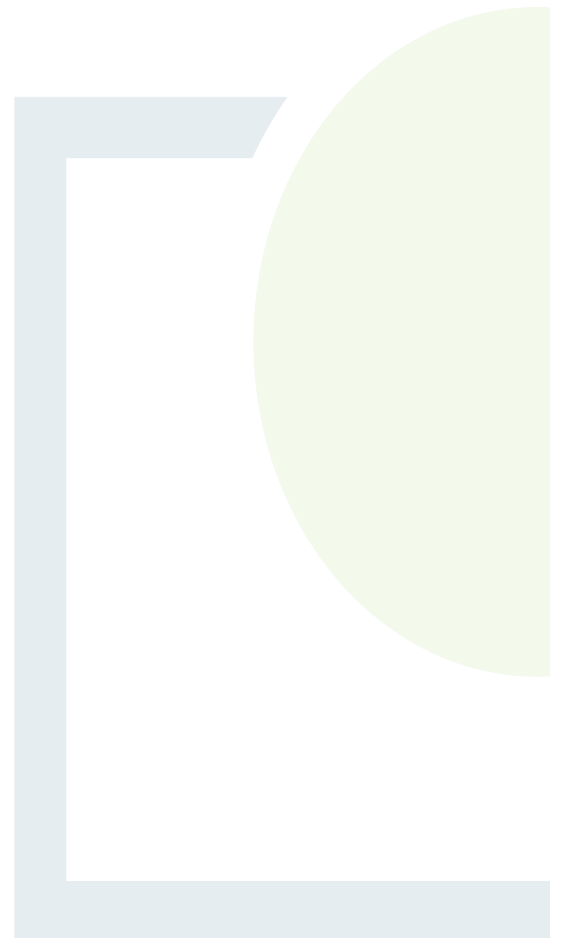
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NON- TECHNICAL SUMMARY HISTORICAL LANDFILL AT LENAMORE, CO. KERRY

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Abstract: This report presents a non-technical summary of the Tier 2 and Tier 3 risk assessment for the Lenamore Historic Landfill, Co. Kerry. The non-technical summary has been prepared to accompany the certificate of authorisation application for the site.

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1. NON-TECHNICAL SUMMARY

1.1 Overview

Fehily Timoney and Company (FT) was appointed by Kerry County Council (KCC) to complete a Tier 2 environmental risk assessment (ERA), a Tier 3 ERA and Certificate of Authorisation Application Form (COA) for the Lenamore Historic Landfill. The ERA was conducted in accordance with the Environmental Protection Agency (EPA) Code of Practice (CoP) (2007): Environmental Risk Assessment for Unregulated Waste Disposal Sites.

1.2 Site Location and History

The Lenamore Historic Landfill covers an area of approximately 0.5 hectares and is located in a rural setting. The current land use is a deciduous plantation (alder). Classification for surrounding land is primarily agricultural area and pastures with areas of forestry.

The site is bounded to the south by a small local road. All other sides are surrounded by agricultural land (forestry) and bog. There are no dwellings located within the site boundary or immediately adjacent to the site. The nearest dwelling is located approximately 400m north-west of the site.

The site operated as a landfill accepting municipal waste. Waste activities had ceased before the completion of the 1998 Waste Management Plan for Kerry and commenced after the 1986 An Foras Forbartha report on National Database on Waste.

A site investigation (S.I.) programme was completed in June 2019. It is assumed based on historical evidence that the landfilling extends across the entire site area identified which was partially inaccessible to the tracked excavator at the time of the investigations. KCC initially estimated that approximately 12,000 – 16,000 tonnes of waste material were deposited at the site. A review of S.I. data indicates an interred waste volume of approximately 16,000 tonnes.

1.3 Hydrogeology and Ecology

The Quaternary Map provided by GSI Online identifies the quaternary sediments at the site as 'Cut over raised peat'. Lands immediately surrounding the site are also described as peat. Beyond this area of peat, the soil is characterised as 'Till derived from Namurian sandstones and shales'. The GSI online 1:100,000 scale bedrock geology map, shows the bedrock beneath to be found on a single formation. The entirety of the site and surrounding area are underlain by the Shannon Group formation (CNSHG) which is generally made up of Namurian, undifferentiated mudstone, siltstone and sandstone. No areas of bedrock outcrop are shown within or in the immediate vicinity of the site.

The GSI shows that the groundwater body (GWB) is named Abbeyfeale GWB and is classified as poorly productive bedrock and is defined as being at *Good Status* under the Water Framework Directive (WFD). The WFD risk to groundwater quality is currently 'Not at Risk'. There are no recorded groundwater dependent ecosystems in the area. The GSI Online mapping data set identifies the vulnerability of groundwater to contamination is classified as Low.



The site is located within the catchment of the Tralee Bay-Feale, Sub-catchment Galey and Tarmon Stream river sub-basin. The nearest surface water feature is the Gurteenacloona stream located approximately 30m southeast of the site. The Gurteenacloona stream flows in a south/south-westerly direction meeting another stream (the Leanamore). The Leanamore stream eventually meets the River Tyshe c. 2.1km south-west of the site. The site is surrounded by drainage ditches.

The site is not within or directly adjacent to any Natural Heritage Area (NHA), proposed NHA (pNHA), Special Area of Conservation (SAC) or Special Protection Area (SPA). The nearest protected site is SAC is Bunnaruddee Bog NHA (Site Code: 0013520). There are no other protected sites in the vicinity of the site or any sites that would be considered likely to be at risk.

1.4 Risk Assessment and Environmental Impacts

An initial Tier 1 risk assessment of the site was completed by KCC in 2007 which determined that the site had a moderate risk (Class B) to the environment, with the highest score of 50% being assigned to leachate migration to the surface water via surface water pathways. The Tier 1 was updated by KCC in 2013 to a low risk (Class C), with the highest score of 11% being assigned to leachate migration to groundwater via groundwater flow.

Based on the results of the Tier 2 and Tier 3 risk assessments, the site was classified as a **Moderate Risk Classification (Class B)**. The principal risks identified on the site are the risk of leachate contamination of downstream surface and ground waters.

The Tier 3 assessment further examined and quantified those risks/impacts through generation of models allowing a prediction of both the current and future impacts on groundwater quality, surface water and the current and future extent landfill gas being generated by the waste present on site.

This information was used to inform appropriate remedial and mitigation measures to be implemented on site to either eliminate or reduce these risks.

Estimation of leachate generation at the site indicates that the site is unlikely to have a long-term negative impact on either groundwater or surface water quality downstream of the site at the compliance point located 1 km downstream of the site.

LandGEM was utilised to estimate the quantity of landfill gas produced by the waste underlying the site. Model results suggest that the site will continue to produce landfill gas and methane in minimal quantities, thereby requiring appropriate landfill gas management measures be implemented at the site to monitor potential risk.

1.5 Proposed Remediation

The Tier 3 assessment concluded that owing to its remote location, established tree canopy and findings of the modelling exercises and quantitative risk assessments, remedial measures are not recommended for the immediate future.

Because there is no significant evidence of environmental pollution it is recommended that forestry plantation be allowed to mature without any remedial works on the cap being required prior to harvesting of trees. Harvesting is unlikely to happen for a further 15 or 20 years.



In the interim period it is recommended that annual groundwater, surface water and gas monitoring be carried out until such time as the trees are harvested. Thereafter, following a review of gas, surface and groundwater monitoring data a new risk assessment should be carried out using available data to review the risk rating of the site and to determine whether the plantation can be re-planted and/ or if there is a requirement for future Remedial works.

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