FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
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Attachment A.1

Non-Technical Summary

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CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

HISTORICAL LANDFILL AT AHASCRA, CO. KERRY

NON- TECHNICAL SUMMARY

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Prepared for: Kerry County Council

Comhairle Contae Chiarraí
Kerry County Council

Date: August 2021

J5 Plaza, North Park Business Park,
North Road, Dublin 11, D11 PXT0, Ireland

T: +353 1 658 3500 | E: info@ftco.ie

CORK | DUBLIN | CARLOW

www.fehilytimoney.ie

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

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT
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Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
1	Final	DM	BG	BG	18/08/2021

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Client: Kerry County Council

Keywords: Site Investigation, Environmental Risk Assessment, Waste

Abstract: This report presents a non-technical summary of the Tier 2 and Tier 3 risk assessment for the Ahascra, 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 Ahascra, 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

Ahascra Historic Landfill is in an area of open land located immediately adjacent to an area of peatlands known as the Kiltean Bog. The site is located approximately 4.3km north-east of Ballyduff village and approximately 8km north-west of Listowel town, in the townland of Ahascra, Lisselton, Co. Kerry.

The site is approximately 2.6 hectares. The site is located in a rural setting and the site is accessed via local tertiary roads just off the R551 Ballyduff to Ballybunnion road. A portion of the sites eastern boundary is bounded by a local access road. Bog land exists further east beyond the access road. The site bounded by agricultural land to the north and west and agricultural/bog land to the south.

Available evidence suggests that landfilling ceased, and the site closed in ca. 1990. The closure date is based on a An Foras Forbartha report on National Database on Waste which indicated the site had an annual intake of 1,638 tonnes and four years remaining capacity in 1986.

A site investigation (S.I.) programme was completed in 2019. The findings of the site investigation work suggest the waste material is deposited in a single infill area tending north-west to south-east across the site and between approximately 250m in length and 92m in width. The total area covered by the waste body is approximately 23,000 m^2. A review of S.I. data indicates an interred waste volume of approximately 88,550 tonnes.

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1.3 Hydrogeology and Ecology

The Quaternary Map provided by GSI Online identifies the quaternary sediments within and surrounding the site as 'Cut over raised peat'. Pockets of sandstone and shale tills surround the adjacent peat bog area. Further west significant alluvium deposits are shown following the Feale/Cashen River.

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 is underlain by the Waulsortian Limestone formation (CDWAUL) which is generally made up of Dinantian '*massive, unbedded lime-mudstone'.* No bedrock outcrops are shown to be present within the site area. The closest bedrock outcrops recorded by GSI are located approximately 380m west of the site.

The GSI shows that the groundwater body (GWB) is named Ballybunnion GWB and has a karstic flow regime and is defined as being at *Good Status* under the Water Framework Directive (WFD). The risk to groundwater quality is currently under review. There are no recorded groundwater dependent ecosystems in the area.

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The GSI Online mapping data set identifies the vulnerability of groundwater to contamination immediately underlying the site is classified as moderate vulnerability. Within 400m of the western site boundary, the groundwater vulnerability increases from high to extreme coinciding with the presence of a bedrock outcrop approximately 380m west of the site and thin overburden cover.

The site is located within the catchment of the Tralee Bay-Feale, sub-catchment Glouria and river sub-basin Glouria_010. The River Feale, first order waterbody, is located approximately 1.5km south-west of the site at its closest point. The Glouria River (Glouria_010), second order waterbody, is located approximately 1.11km south-east of the site and flows in a south-westerly direction before turning west eventually meeting the Rover Feale approximately 2km south-west of the site. Locally, a peatland drainage channel with very low flow rate was identified along north-eastern boundary of site during the site walkover. During periods of increased rainfall, flow direction within the drainage channel is likely south to north. Observations of the localised topography indicate that drainage channels from the surrounding peatlands and field boundaries eventually drain into the River Feale approximately 1.6km to the west.

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 SAC is The Lower River Shannon SAC (Site Code:002165) located approximately 2km south-west of the site. The SAC includes the Glouria waterbody in its classification extent. This Moanveanlagh Bog SAC (Site Code:002351) and pNHA (Site Code:000374) is located within 13km east of the site just outside Listowel town. The River Feale estuary, also known as the Cashen River Estuary, is a designated pNHA and is located within 2km of the site. The nearest SPA is the Kerry Head coastal region (Site Code: 004189), located approximately 8.5km west of the site.

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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 high risk (Class A) to the environment, with the highest score of 70% indicating the risk of leachate impacting on surface water via surface water pathways. The Tier 1 was updated by KCC in 2013 and recalculated as moderate risk (Class B), with the highest score of 61% 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 **High Risk Classification (Class A)**. The principal risks identified on the site relate to the risk of leachate migration to the surface water peatland drainage channel located along the eastern boundary of the historic landfill and the risk to the groundwater aquifer from the migration of leachate from the waste body.

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 groundwater concentrations were above groundwater quality thresholds and may be impacting groundwater quality locally.

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Although gas monitoring did not indicate the presence of gas at that time and the calculated the risk from landfill gas is relatively low, taking into the account the relative proximity of the site to an existing residential unit, it is recommended that landfill gas control measures should be installed at the site to further minimise the risk of landfill gas migration.

1.5 Proposed Remediation

The Tier 3 assessment concluded an engineered landfill cap will be required across the site to reduce rainfall inputs and so mitigate the impacts of leachate generated on site on the underlying aquifer and receptors downgradient. The proposed landfill cap will be constructed in accordance with the EPA recommendations/requirements for landfill site design. The engineered cap will have an impermeable barrier layer to isolate rainfall inputs and so reduce future leachate generation.

A landfill gas collection system was also recommended and shall comprise an under-liner gas collection geocomposite or similar approved stone drainage later.

To monitor the efficacy of the proposed remediation measures, ground and surface water, and gas monitoring are proposed. Groundwater monitoring is proposed in the existing perimeter wells, surface water is proposed at the proposed surface water discharge outfall and gas monitoring is proposed in the existing site boreholes.

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www.fehilytimoney.ie

CORK OFFICE
Core House
Pouladuff Road,
Cork, T12 D773,
Ireland
+353 21 496 4133

Dublin Office
J5 Plaza,
North Park Business Park,
North Road, Dublin 11, D11 PXT0,
Ireland
+353 1 658 3500

Carlow Office
Unit 6, Bagenalstown Industrial Park, Royal Oak Road,
Muine Bheag,
Co. Carlow, R21 XW81,
Ireland
+353 59 972 3800

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