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PLANNING

HISTORIC LANDFILL AT TUAM, CO. GALWAY

STAGE 1 APPROPRIATE ASSESSMENT SCREENING REPORT FOR THE REMEDIATION OF HISTORIC LANDFILL SITE, TUAM, COUNTY GALWAY

Prepared for: Galway County Council



Comhairle Chontae na Gaillimhe
Galway County Council

Date: August 2021

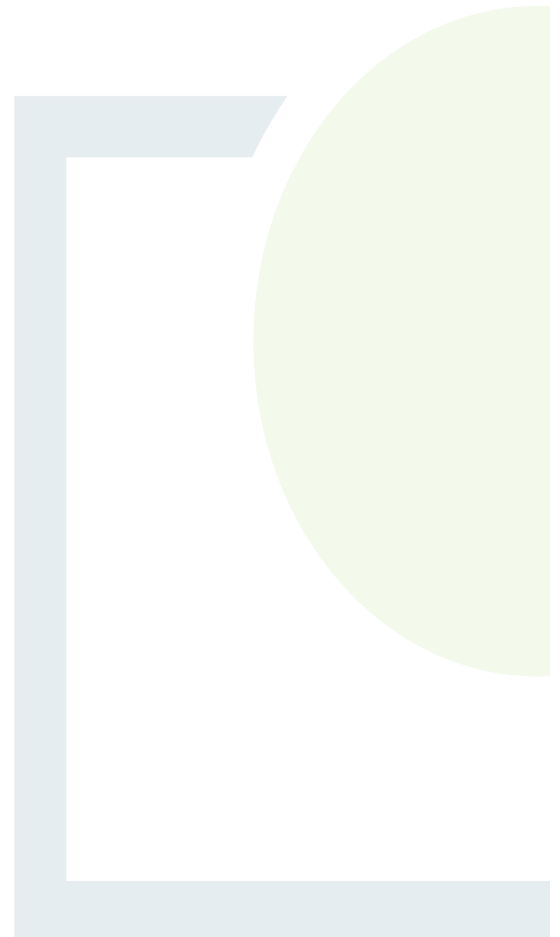
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STAGE 1 APPROPRIATE ASSESSMENT SCREENING REPORT FOR HISTORIC LANDFILL SITE, TUAM, COUNTY GALWAY

HISTORIC LANDFILL AT TUAM, CO. GALWAY

User is responsible for Checking the Revision Status of This Document

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Abstract: This document comprises the Stage One: Appropriate Assessment Screening Report for the Historic Landfill at Tuam, Co. Galway. Appropriate Assessment is required under Article 6 (3) of the Habitats Directive for any project or plan that may give rise to significant effects on a European (Natura 2000) site.

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1. INTRODUCTION

Fehily Timoney and Company (FT) was commissioned by Galway County Council to prepare a report to inform the Screening for Appropriate Assessment for proposed remediation works to the Historic Landfill at Tuam, Co. Galway (see Figure 1-1 for location).

Proposed remediation works for the historic landfill are to repair the existing cap, install new security fencing and provide two additional monitoring locations.

This report presents an assessment of whether the proposed remediation work is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is based on best available scientific knowledge. This report is to inform the competent authority¹ in completing their statutory obligation to carry out a Screening for Appropriate Assessment.

1.1 Legislative Context

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) provides legal protection for habitats and species of European importance. The Directive requires that where a plan or project is likely to have a significant effect on a European Site, while not directly connected with or necessary to the nature conservation management of the site, it will be subject to 'Appropriate Assessment' to identify any implications for the European site in view of the site's Conservation Objectives. Specifically, Article 6(3) of the Habitats Directive states:

6(3) Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

¹ In this case, the Environmental Protection Agency in carrying out their functions under SI 524/2008 (as amended), and in accordance with Regulation 42 of SI 477/2011 (as amended), and An Bord Pleanála in accordance with Article 177U of SI 30/2000 (as amended).



The provisions of Article 6 do not apply where the proposed plan or project is '*connected with or necessary to the management of the site*'. In this case, the proposed landfill remediation works are not directly connected with or necessary to the management of any European site(s) and as such as assessment as to whether the project would be likely to have significant effects on European Sites must be carried out. This assessment has been termed a 'Screening for Appropriate Assessment' in the transposing national legislation: Part XAB of the Planning and Development Act, 2000 - 2020 and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) as amended.

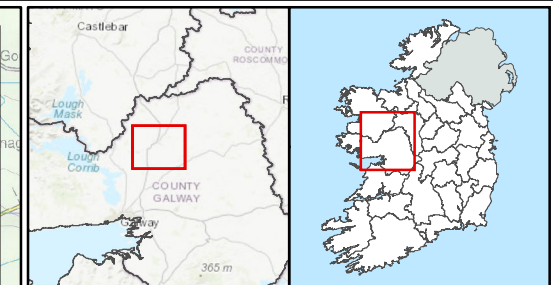
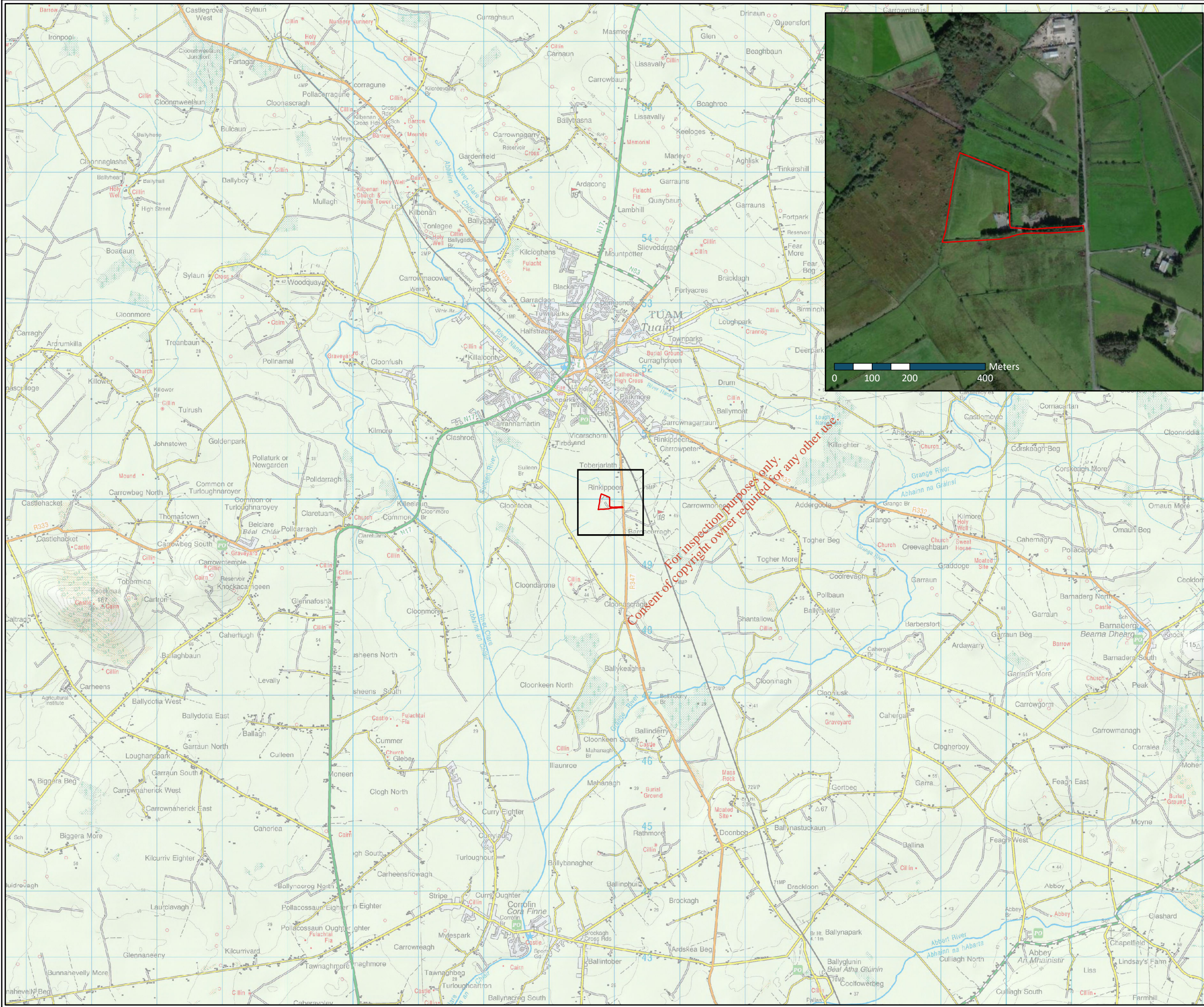
This national legislation requires that the Screening for Appropriate Assessment is carried out by the competent authority before consent for a plan or project is given. The competent authority in carrying out the screening assessment, is required to make an examination, analysis, evaluation, findings, conclusions and a final determination as to whether or not the proposed works either alone or in combination with other plans or projects would be likely to have significant effects on the relevant European site(s) in view of their conservation objectives.

1.2 Statement of Competence

This report has been prepared by Jason Guile and Rita Mansfield. Jason has over 10 years' experience in ecological assessment and holds a BSc in Marine Biology/Oceanography from the University of Wales, Bangor and a HND in Coastal Conservation with Marine Biology from Blackpool and Fylde College. Jason has prepared Appropriate Assessment Screening reports and Natura Impact Statements for numerous large scale infrastructure projects in the commercial, energy and transport sectors.

Rita is Principal ecologist with Fehily Timoney and has 17 years' experience in the field of ecological assessment. She holds a BSc (Hons) in Applied Ecology from University College Cork and a HDip. (Hons) in Environmental Protection and Pollution Control from Sligo Institute of Technology. Rita has prepared Natura Impact Statements for numerous large scale public infrastructure projects and plans in the waste, transport, energy, and water sectors (including flood relief schemes).

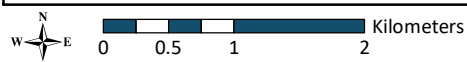
All of the authors above are competent experts for the purposes of the preparation of this NIS and suitability qualified in ecology.



Site Boundary

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TITLE:		Site Location	
PROJECT:		Tuam Historic Landfill ERA	
FIGURE NO:		1.1	
CLIENT:		Galway County Council	
SCALE:	1:57795	REVISION:	0
DATE:	18/10/2021	PAGE SIZE:	A3
		Cork Dublin Carlow	
		www.fehilytimoney.ie	





2. METHODOLOGY

2.1 Guidance

In the preparation of this assessment regard has been had to the relevant guidance, in particular:

- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg (EC, 2002);
- *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin (2010);
- *Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC*. European Commission (2018). Brussels, 21.11.2018 C (2018) 7621 final;
- *Interpretation Manual of European Union Habitats*. Version EUR 28. European Commission 2013;

2.2 Assessment Protocol

The process in determining the likelihood of significant effects from the proposed project on European sites is as follows:

Characteristics of the Project and Identification of Impacts

The assessment commences with a description of the project (Section 3 of this report) and the associated likely environmental impacts. All elements of the project are presented including the project location and existing baseline environment. The type of impacts which are likely due to the project are identified having regard to the spatial and temporal scale of the project, resource requirements and likely emissions. The zone of influence (Zol) of the project is therefore defined, and European Sites within the Zol are identified.

The potential for cumulative impacts with other plans and projects is also assessed having regard to the identified impacts of the project.

European Site Characteristics

The European sites which fall within the Zol of the project impacts are identified. The conservation objectives for these European Sites are identified and the environmental conditions needed to maintain or achieve favourable conservation status is determined along with the existing threats and pressures to the Sites (Section 4).

Likelihood of Significance of Effects

The likelihood of significant effects on the European Sites is determined having regard to the sensitivity of the site to the impacts associated with the project on its own and in combination with other plans and projects.



Having regard to Alen-Buckley and Anor V An Bord Pleanála and Anor (2017) IEHC 541, the assessment of 'likely' is made on the basis that "... *there need not be any hard and fast evidence that such a significant effect was likely, there merely had to be a possibility that this significant effect was likely*". Thus, a precautionary approach is adopted and, in cases of uncertainty, the likelihood of an effect is assumed.

Note the threshold for a significant effect is assessed on a *de minimis* level as per the opinion of the Advocate General Sharpston for CJEU case C-258/11:

"48. The requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."

2.3 Information Consulted in the Preparation of this Report

A desk study was carried out to collate available information on the site's natural environment. This comprised a review of the following publications, data and datasets:

- Galway County Development Plan 2015-2021
<http://www.galway.ie/en/services/planning/planspolicy/gcdp2021/>
- Tuam Local Area Plan 2018-2024 <http://www.galway.ie/en/services/planning/planspolicy/lap/tuam/>
- Galway County Council Planning Enquiry System <http://www.eplanning.ie/GalwayCC/searchtypes>
- National Biodiversity Action Plan 2017-2021
<https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf>;
- BirdWatch Ireland website
- Environmental Protection Agency (EPA) (on-line map-viewer)
- River Catchment & Sub-catchment WFD datasets
- Tier 2 Risk Assessment Report for Tuam Historic Landfill
- Tier 3 Risk Assessment Report for Tuam Historic Landfill
- Department of Housing, Planning, and Local Government – online land use mapping
www.myplan.ie/en/index.html;
- Department of Housing, Planning, and Local Government- EIA Portal
<https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eia-portal>
- Environmental Protection Agency (EPA) – Water Quality www.epa.ie, <http://gis.epa.ie/Envision>;
- Geological Survey of Ireland – Geology, soils and Hydrogeology www.gsi.ie;
- [Water Framework Directive website – www.catchments.ie](http://www.catchments.ie);



- National Parks and Wildlife Service – online European site network information, including site conservation objectives www.npws.ie;
- National Parks and Wildlife Service – Information on the status of EU protected habitats in Ireland (Article 17 Reports)
- National Biodiversity Data Centre – www.biodiversityireland.ie;
- River Basin Management Plan for Ireland 2018 – 2021 <https://www.gov.ie/en/publication/429a79-river-basin-management-plan-2018-2021/?referrer=http://www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021>
- National Peatlands Strategy Progress Reports - 2018 and 2019 https://www.npws.ie/sites/default/files/files/national_peatlands_strategy_progress_report_2018_and_2019_english.pdf;
- Ordnance Survey of Ireland – Mapping and Aerial photography www.osi.ie; and
- Site surveys, undertaken September 2020

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3. CHARACTERISTICS OF THE PROJECT & IDENTIFICATION OF IMPACTS

3.1 Project Overview

A Tier 2 and Tier 3 Environmental Risk Assessment was undertaken by FT to assess the overall risk the site may pose to the receiving environment. Based on the potential overall risk of the site on the environment, the Tier 3 Risk Assessment determined appropriate remediation measures for the site.

Proposed remediation works for the historic landfill are to repair the existing cap as outlined below. Access to the site will be via the R347, Athenry Road which runs between Tuam and Athenry and along the existing civic centre access road.

The proposed remediation works comprise the following elements:

- Repair of existing landfill capping
- New Perimeter Security Fencing

3.1.1 Landfill Cap Repairs

Landfill capping works will be limited to the repair of the existing cap where erosion, poaching and exposure of the engineered geosynthetic clay liner (GCL) has occurred. Localised capping repairs will be limited to the placement of additional topsoil's (100-200mm) in discrete areas not typically exceeding 50m² approximately. Works will be undertaken by a tracked excavator. Local areas will be trimmed and levelled prior to reseeding with a grassland seed mix. An estimate 50m³ of topsoil will be required. Topsoil will be sourced from local quarry sources, brought to site in dumper trucks and deposited near where it is to be used and is spread out immediately. Capping repair works programme is estimated at 3-5 days.

3.1.2 Site Security

Suitable fencing and secure access to be installed along the site perimeter and site entrance to prevent access to the site from animals which may otherwise lead to further poaching of the landfill surface and damage to the site capping. Fencing will be undertaken adjacent to the existing watercourses replacing the existing damage fencing where necessary. Fencing will not include any works within the watercourse. A tracked excavator may assist in palisade fencing but works for the agricultural fencing will be principally manual. Fencing works programme is estimated at 2-3 weeks.



Figure 3-1: Typical Palisade Style Fencing²

Agricultural style fencing will comprise driven wooden posts with no requirements for concrete foundation. Palisade type fencing will include concrete foundations. The foundation dimensions will be typically 0.3m x 0.3m x 0.6m requiring approximately 0.05m³ per foundation location.

Refer to Appendix 1 for the existing and proposed fencing location.

All works will take place during the hours of daylight.

3.1.3 Environmental Monitoring: Proposed New Locations

The following additional groundwater monitoring locations are recommended

- GW03-S - upgradient shallow well (screened in overburden)
- GW03-D - upgradient deep well (screened in bedrock)

The installation of the proposed monitoring wells will require the mobilisation of a rotary core drilling rig. Works will take 1-2 days to complete.

Refer to Appendix 1 for the existing and proposed monitoring locations.

² Source: <https://www.proctercontracts.co.uk/product/mesh-panel-fencing/palisade/>



The proposed remediation plan objectives will be to:

- Monitor potential leachate migration to groundwater using existing groundwater monitoring wells.
- Monitor potential leachate migration to surface water at existing surface water monitoring locations on adjacent surface water drains and streams.
- Monitor gas migration through the installation of a gas monitoring well on the western perimeter of the CA facility, between the CA facility at the capped waste body.
- Monitor potential gas migration and accumulation through the installation of CEM within identified enclosed spaces at risk.

For the purposes of this AA Screening the unmitigated effects of the proposed works are only being considered. This AA Screening report does not consider measures included to reduce and / or avoid potential significant effects to a European site.

3.2 Baseline Environment

The historic landfill site is in the ownership of Galway County Council (GCC) and a civic amenity site is located in the south east corner of the site. The waste footprint area is approximately 3.4Ha in size. There are no dwellings located within the site or in its immediate vicinity. Sheds and outbuildings form part of the civic amenity.

The landfill is raised to a height of approximately 6-7m above the adjacent lands and is capped with an engineered geosynthetics clay liner (GCL) layer and topsoil. The historic landfill can be more accurately described as a land raise.

The topography of the surrounding area is generally relatively flat, with a gentle slope southward to the south-west towards the River Clare.

The habitats within the landfill are categorised under Fossitt (2000) as 'improved grassland' (GA1) with a short section of treeline (WL2) present along the southern boundary. No invasive species were observed. No observations and/or evidence of qualifying interests (QI) or species of conservation interest (SCI) of European sites were recorded during the survey. Surface water drains have been constructed around the perimeter of the landfill.

The northern section of the landfill flows into the River Suileen (EPA Name: Killeelaun). This flows west before turning sharply south and subsequently converges with the River Clare downstream c.4.5km (in-stream). At c.3.7km (in-stream) the Killeelaun is classed as part of the Lough Corrib SAC.

The southern section of the site flows into a stream (EPA Name: the Clare (Galway)_060) which is a tributary of the River Clare and converges with the River Clare c.4km (in-stream) downstream just north of Corofin. At c.2.5km (in-stream) the Clare (Galway)_060 is classed as part of the Lough Corrib SAC. The River Clare flows in a southerly direction past Tuam into Turloughmore then turns west before flowing into Lough Corrib. The surroundings environment comprises agricultural land and boglands.



The Geological Survey Ireland (GSI) mapviewer indicates:

- The quaternary sediments at the site and estimated waste footprint area as 'Cut over raised peat (Cut)'. To the north and east and west of this, quaternary sediments are characterised as 'Till derived from limestones (TLs)'. Further west alluvium deposits are present following the River Clare. Boreholes previously excavated within the waste body showed that the waste body is underlain by a layer of peat, however the thickness of this peat was not confirmed.
- The bedrock beneath the site comprises two different formations the boundary of which transects the site. The site is underlain by a combination of undifferentiated Visian Limestones (CDVIS) and pale grey clean skeletal limestone Burren Formation (CDBURR). Further to the south-west, the site is underlain by Knockma Formation.
- The underlying bedrock, groundwater aquifer is classified as a 'Regionally Important Aquifer - Karstified (conduit)'.

Although Geological Survey Ireland (GSI) data shows records of water supply wells in the area there are no defined groundwater protection areas shown at these locations and the recorded wells may no longer be in use for group scheme water supplies. There are no Groundwater Drinking Water Protection Areas within the site boundaries.

The Environment Protection Agency (EPA) mapviewer indicates:

- The underlying groundwater body (GWB) is named Clare-Corrib GWB and is defined as being at Good Status under the Water Framework Directive (WFD). The risk to groundwater quality is currently stated as 'At risk'.
- The vulnerability of groundwater to contamination within the site area is classified as being primarily high (H). The area towards the north-west of the site is classified as moderate (M), before becoming low (L).
- The site is located within the Corrib catchment (Hydrometric Area: 30), Clare (Galway)_SC_040 sub-catchment and Clare (Galway)_060 sub-basin.

The nearest downstream EPA surface water monitoring station is located c.6km downstream of the site in Corofin. The most recent biological (Q-Rating) for surface water quality at this location (2018) was Q3-4, Moderate status. The nearest upstream EPA surface water monitoring station is located c.3.5km upstream where the River Nanny converges with the River Clare, and the most recent Q-rating assigned was Q4, Good in 2018.

The proposed development lies within Ordnance Survey National Grid 10km Squares M44 (southern half) and M45 (northern half). NBDC results of the European protected species that have previously been recorded within the two grid squares identify:

- 1 no. amphibian species
- 23 no. bird species
- 2 no. terrestrial mammal species
- 7 no. bat species (including Lesser Horseshoe bat)
- 1 no. crustacean species



- 1 no. butterfly species, and
- 1 no. mollusc species

No European protected fish species have been identified as being recorded within the 10km grid squares.

The existing landfill site comprises potential foraging/commuting habitat for birds, terrestrial mammals and bats.

The immediate surrounding land parcels comprises suitable foraging/commuting habitat for birds, mammals, (including bats), crustaceans and butterflies. Along with potential breeding habitat for birds, terrestrial mammals, bats and butterflies.

There are however no records of protected species within 1km (NBDC grid squares M4349, M4350, M4449 and M4450) of the proposed development.

3.3 Identification of Impacts

Sources of potential environmental impacts during the proposed development:

- Pollution events
 - Sediment runoff from the exposed areas of topsoil during capping repair, impacts are estimated to be temporary (impacts lasting up to 5 days), due to the short time frame of the proposed repair works.
 - Sediment runoff from newly laid areas of topsoil, impacts are estimated to be temporary (up to 6 months) while grass layer is established. Repair works will have a positive effect on the existing exposed cap areas.
 - Wet concrete entering drains adjacent to palisade fencing foundation works, impacts are estimated to be brief (impacts lasting 2-3 weeks) due to the short time frame of the proposed fencing works.
- Disturbance
 - Increase in machinery and personnel on site, impacts are estimated to be temporary (up to 3 weeks) due to the short time frame of each element of the proposed works.
 - Increase in noise due to earthworks, impacts are estimated to be temporary due to the short time frame of each element of the proposed works.
 - Increase in vibrations due to rotary core drilling, impacts are estimated to be temporary (1-2 days) due to the short time frame of the proposed works.



3.3.1 Zone of Influence

Projects have the potential to impact on European Sites beyond the footprint of the project itself. National Guidance (Refer to Section 2.1) states that screening for Appropriate Assessment should be carried out for any European Site within the likely 'Zone of Influence' (Zol) of a plan or project.

CIEEM (2018) defines the Zol as "... the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities." The likely biophysical changes associated with the landfill rehabilitation are set out in Table 3-1 having regard to the impacts identified above. The zones of influence associated with these project impacts have been derived from relevant published literature and guidance documents.

All European sites within the defined zones of influence were identified using Geographic Information System (ArcGIS).

Table 3-1: Zone of Influence

Activity	Biophysical Change	Zone of Influence	European Site / Conservation Interest within Zol
Noise, Vibration & Human Presence (disturbance / displacement)	Temporary increase in noise due to earth works Temporary increase in vibration due to drilling	Mammals – NRA guidelines = 150m Otter Breeding Birds – 1km Disturbance distances for sensitive breeding bird species. Wintering Birds – Based on core foraging ranges SNH (2016) Assessing connectivity with special protection areas. Bats and Noise – very few studies on level of disturbance relative to distance from noise source. – Any roosts within 2km to be assessed further relative to nature of surrounding habitat to support commuting / feeding / roosting Lesser Horseshoe Bat.	No European Sites within the Zol of Noise/Vibration There are no records of Species of Conservation Interest (mammals / birds) within 1km of the proposed development (NBDC grid squares M4349, M4350, M4449 and M4450). Species recorded within 2km (M44J, M44P, M45F and M45K) are not designated as a Conservation Interest of European sites with connectivity to the proposed development. Wintering birds Hen harrier core range is 2km to a maximum of 10km. Golden Plover core range is 3km to a maximum of 11km. Coot, Tufted Duck, Black-headed Gull and Common Gull do not currently have a defined range according to SNH (2016). The proposed development site currently comprises low value ecological habitat. Due to the distance (15.2km), duration of works (2-3 weeks), no sightings of SCI's during the walkover survey and no supporting data (NBDC, NPWS, I-Webs) that SCI's have been recorded using the site.



			<p>There is also no suitable breeding and/or wintering habitat on site for the SCI species as identified by Birdwatch Ireland and the surrounding environment having appropriate displacement habitat, it is unlikely that the proposed project will have a significant effect on the SCIs of Lough Corrib SPA.</p> <p>There are no records of Species of Conservation Interest (bats) within 2km of the proposed development (NBDC grid squares M44J, M44P, M45F and M45K). The proposed development does not provide roosting habitat for Lesser Horseshoe Bat and is outside the 2.5km foraging range for the species (NPWS, 2018), located along the northern bank of Lough Corrib between Cornamona and Cong c. 40km west of the proposed development.</p>
Dust		<p>The Institute of Air Quality Management 'Guidance on the Assessment of dust from demolition and construction' (Holman et al, 2020) prescribes potential dust emission risk classes to ecological receptors. The guidelines specify that, for highly sensitive ecological receptors, sensitivity to dust is 'High' up to 20m from the source and reduces to 'Medium' over 50m from the source.</p> <p>The generation of potential dust from the proposed works is considered to equate to the small scale construction and demolition works outlined in Holman et al. (2020) and, therefore, 50m is taken as a worst-case Zol for dust impacts from the works.</p>	<p>No European site within the Zol of dust.</p> <p>There is potential for dust deposition in the local drainage. However, due to the small scale (50m³ of topsoil) and the short duration (2-3 weeks), dust effects will be localised.</p>
Runoff	Sedimentation & pollution	<p>No established Zol – all hydrological connectivity (upstream and downstream) is assessed.</p>	<p>European Site within the Potential Zol of surface water runoff:</p> <ul style="list-style-type: none"> Lough Corrib SAC (Site Code: 000297) 1.9 km West (2.5km in-stream distance) <p>There is potential for runoff to enter the drains associated with the landfill. These drains are hydrologically connected to the abovementioned European site. It is noted that the proposed works are small scale (50m³ of topsoil) and of short duration (2-3 weeks). Effects are therefore likely to be localised to the drains. However, in assessing the potential zone of influence, the Communication of the Commission in applying the precautionary principle is adopted and Lough Corrib SAC is considered further.</p> <p>Lough Corrib SPA (Site Code: 004042) is located 15.2 km West (>30km in-stream distance).</p>



			Given the distance of the SPA from the proposed works, coupled with the small scale of works, a hydrological connectivity is considered in effect to be absent.
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In adopting the precautionary principle, Lough Corrib SAC (Site Code: 000297) is considered to be in the Zol of surface water runoff / accidental pollution associated with the proposed landfill remediation. The potential for significant effects on the conservation objectives of the SAC is examined further in Section 4 relative to the sensitivity of its conservation interests / qualifying features to the likely biophysical changes which might occur due to surface water runoff / accidental pollution from the remediation works.

3.4 Potential Cumulative Impacts

In considering whether the proposed development has the potential to affect the conservation objectives of the designated sites within the Zol of the proposed development in combination with other plans and projects, the following were considered:

- Galway County Council Planning Enquiry System
- Permitted projects in the vicinity of the development
- Proposed projects in the vicinity of the development

A planning search limited to applications submitted within the townlands overlapping (Rinkippeen) and immediately adjacent (Cloontooa and Barnacurragh) to the historic landfill site during the previous 5 years was conducted on 2nd October 2020.

Planning Applications

Of the proposed and permitted developments within the search area, most are made up of commercial related developments and small scale residential upgrades at least 10m from a watercourse edge.

The planning search also highlighted a 10-year planning applications (ID: 201387) for the construction of a solar photovoltaic farm and ancillary infrastructure, located at Cloontooa, Rinkippeen, Cloonascragh, Barnacurragh and Ballykeaghra, Tuam, Co Galway, of which some of the application lands are adjacent to the historic landfill site.

Another solar photovoltaic farm and ancillary infrastructure application (ID: 191315), is located c.500m south of the historic landfill site at Cloonascragh, Tuam, Co Galway (outside the aforementioned townlands).

Given the likelihood that impacts from the proposed landfill rehabilitation would be local to the immediate environment, the potential for in combination effects are low.



Farming / Peat extraction

Farmland and peatland are widespread in the surrounding environment and intensive grassland management is noted close to (but not within) the historic landfill site. In general, farming and commercial peat extraction are contributors to water pollution³. The diversity of flora within the habitats has been reduced dramatically in the surrounding environment by drainage, reseeding, fertilisation and intensive grazing by cattle.

Sedimentation from the proposed development would be a minor contributory pressure relative to the scale of pressures from these sectors.

Other Historic Landfills

There are no other historic landfills within the ZoI for the proposed development.

Plans

The plans considered for in-combination effects with regard to the proposed development are:

- Galway County Development Plan 2015-2021
- Tuam Local Area Plan 2018-2024

Given the benefits of the proposed development on the local environment, the potential for in-combination effects are low.

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³ EPA. 2019. Water Quality in Ireland 2013 – 2018.

[http://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20\(web\).pdf](http://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20(web).pdf)



4. CHARACTERISTICS OF EUROPEAN SITE(S)

4.1 Brief Description of the European Sites within Zol of the Development

The Lough Corrib SAC (Site Code: 000297) is within the potential Zol for the proposed development and connected via the surface water drainage network around the perimeter of the landfill then converges with the River Suileen (EPA Name: Killeelaun) to the north and the Clare (Galway)_060 to the south. At c.3.7km (in-stream) the Killeelaun and c.2.5km (in-stream) the Clare (Galway)_060 are designated as part of the Lough Corrib SAC

4.2 Conservation Objectives

According to the Habitat's Directive, the *conservation status of a natural habitat* will be taken as 'favourable' within its biogeographic range when:

- Its natural range and areas it covers within that range are stable or increasing; and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable as defined below.

According to the Habitat's Directive, the *conservation status of a species* means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographic range when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives and supporting documents for this site are available from the NPWS through the protected sites search portal at <https://www.npws.ie/protected-sites>. These have been accessed for the site(s) listed in Table 7-1 below.

Specific conservation objectives were available for Lough Corrib SAC (000297); 28/04/2017 [Version 1]

There is no management plan available for the site.



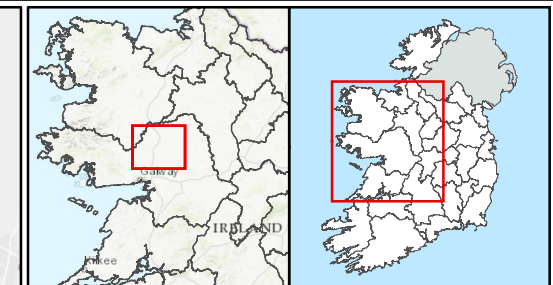
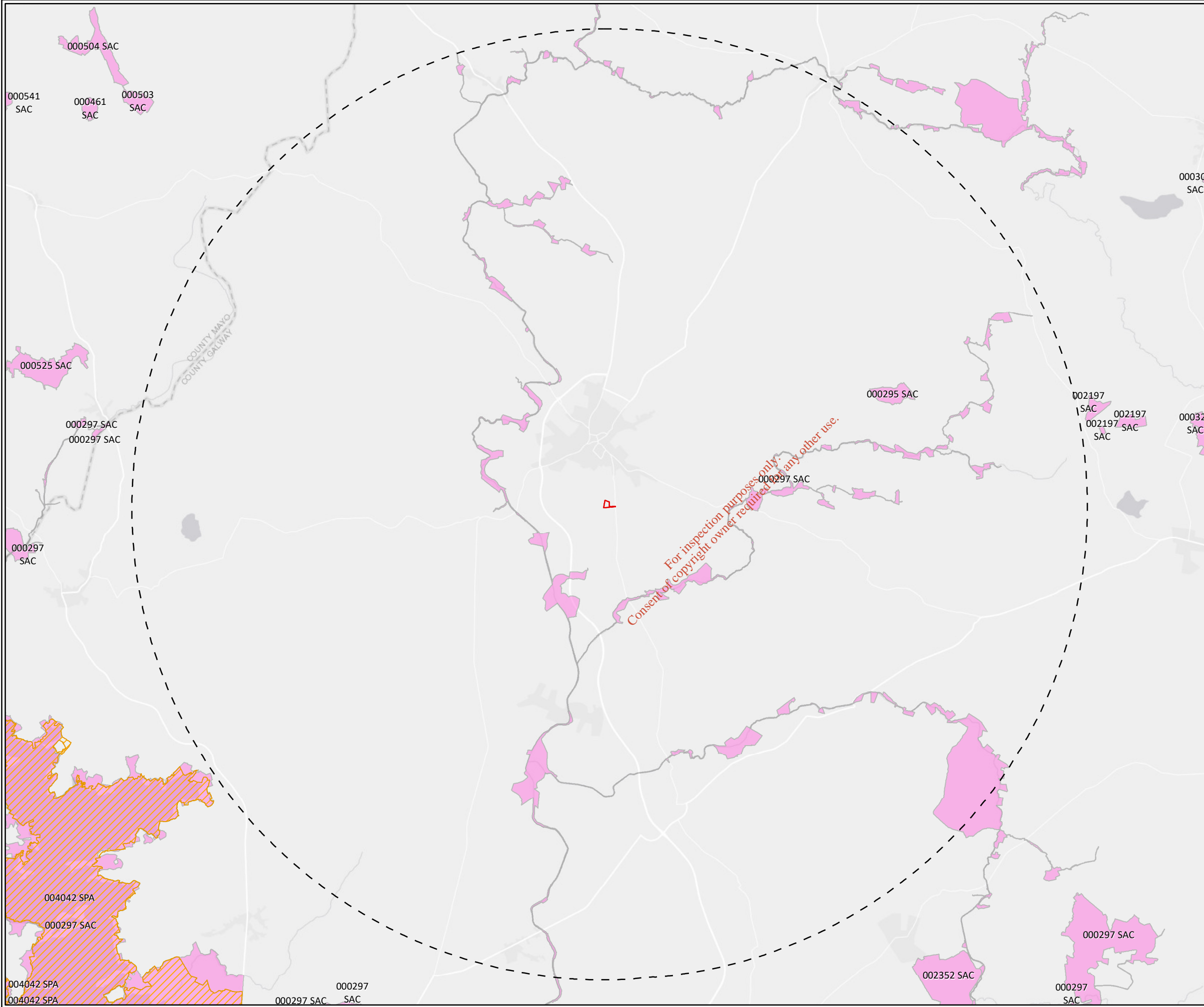
Table 4-1: European Sites within the zone of influence

Designated Site (Site Code)	Conservation Objectives	Qualifying Interests	Threats and Pressures	Direct Distance from Historic Landfill Site (km)
Lough Corrib SAC (000297)	<p>To maintain (M) or restore (R) the favourable conservation condition of the Annex I species for which the SPA has been selected (further details available in Appendix 2).</p> <p>Conservation Objectives available: 28/04/2017 [Version 1]</p>	<ul style="list-style-type: none"> • 1029 Freshwater Pearl Mussel <i>Margaritifera margaritifera</i> (R) • 1092 White-clawed Crayfish <i>Austropotamobius pallipes</i> (M) • 1095 Sea Lamprey <i>Petromyzon marinus</i> (R) • 1096 Brook Lamprey <i>Lampetra planeri</i> (M) • 1106 Salmon <i>Salmo salar</i> (M) • 1303 Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> (R) • 1355 Otter <i>Lutra</i> (M) • 1393 Slender Green Feather-moss <i>Drepanocladus vernicosus</i> (M) • 1833 Slender Naiad <i>Najas flexilis</i> (R) • 3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) (R) • 3130 Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> (R) • 3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. (R) • 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation (M) 	<p><u>High Level (inside site)</u> G05 Other human intrusions and disturbances I01 Invasive non-native species C01.03.02 Mechanical removal of peat</p> <p><u>High Level (outside site)</u> H01.08 Diffuse pollution to surface waters due to household sewage and waste waters</p> <p><u>High Level (both inside and outside site)</u> A02.01 Agricultural intensification</p> <p><u>Medium Level (inside site)</u> D01 Roads, paths and railroads J02.01.03 Infilling of ditches, dykes, ponds, pools, marshes or pits A10.01 Removal of hedges and copses or scrub E01.03 Dispersed habitation</p>	1.9



Designated Site (Site Code)	Conservation Objectives	Qualifying Interests	Threats and Pressures	Direct Distance from Historic Landfill Site (km)
		<ul style="list-style-type: none"> • 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) (M) • 6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) (M) • 7110 Active raised bogs* (R) • 7120 Degraded raised bogs still capable of natural regeneration (R) • 7150 Depressions on peat substrates of the Rhynchosporion (R) • 7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>* (M) • 7220 Petrifying springs with tufa formation (Cratoneurion)* (M) • 7230 Alkaline fens (M) • 8240 Limestone pavements* (M) • 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (M) • 91D0 Bog woodland* (M) 	<p>D03.01.02 Piers / tourist harbours or recreational piers A04.03 Abandonment of pastoral systems, lack of grazing</p> <p><u>Medium Level (outside site)</u> E01.01 Continuous urbanisation</p> <p><u>Medium Level (both inside and outside site)</u> J02.15 Other human induced changes in hydraulic conditions B01 Forest planting on open ground A08 Fertilisation</p> <p><u>Low Level (inside site)</u> E03.01 Disposal of household / recreational facility waste</p> <p><u>Low Level (outside site)</u> C01.01 Sand and gravel extraction</p>	

* indicates a priority Annex I habitat.



Site Boundary
 15km Buffer Zone
 Special Protection Area (SPA)
 Special Area of Conservation (SAC)

Code, Name, Distance (km)

000295, Levally Lough SAC, 8.9

000297, Lough Corrib SAC, 1.9

TITLE:	
Designated European Sites within 15km	
PROJECT:	
Tuam Historic Landfill ERA	
FIGURE NO:	6.1
CLIENT:	Galway County Council
SCALE: 1:120000	REVISION: 0
DATE: 18/10/2021	PAGE SIZE: A3

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5. LIKLIHOOD OF SIGNIFICANT EFFECTS

5.1 Overview

The potential for effects on the Lough Corrib SAC (000297) arising from the proposed landfill repair works (alone or in combination with other projects or plans) is considered having regard to the conservation objectives of the European site(s).

This assessment is made having regard to the guidance document 'Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC', (European Commission, 2001) and adopts the standard 'Screening Matrix' set out in said guidance document.

5.2 Screening Matrix

Assessment Criteria	Discussion of Potential for Significant Effects
<p>Describe any likely direct, indirect or secondary impacts [effects] of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</p> <ul style="list-style-type: none"> ▪ Size and scale; ▪ Land-take; ▪ Distance from Natura 2000 site or key features of the site; ▪ Resource requirements; ▪ Emissions; ▪ Excavation requirements; ▪ Transportation requirements; ▪ Duration of construction, operation etc.; ▪ Other. 	<p>Size and scale</p> <p>Potential effects: None.</p> <p>Localised capping repairs will be limited to the placement of additional topsoil's (100-200mm) in discrete areas not exceeding 50m² approximately. An estimate 50m³ of topsoil will be required. Capping repair works programme is estimated at 3-5 days, fencing at 2-3 weeks and monitoring locations 1-2 days. Overall, this will have a positive effect on local surface water and ground water quality.</p> <p>Potential for significant effects has been excluded.</p> <p>Land-take</p> <p>Potential Effects: None.</p> <p>The proposed development is not located within any European site, therefore no land-take will occur from any European site.</p> <p>Potential for significant effects has been excluded.</p> <p>Distance from Natura 2000 (European) sites</p> <p>Potential Effects: None.</p> <p>As described in section 3.2, surface drains are present around the boundary of the proposed development, which converge with the River Clare and subsequently the Lough Corrib SAC c. 2.5km downstream.</p>



Assessment Criteria	Discussion of Potential for Significant Effects
	<p>Lough Corrib SAC is designated for aquatic species including salmon, freshwater pearl mussel, white-clawed crayfish, lamprey (sea, river and brook) and otter; and the Lesser Horseshoe Bat. Potential emissions to surface water are discussed in the emission section below. Lesser Horseshoe Bat are outside the Zol, refer to section 3.3.1.</p> <p>Resource requirements</p> <p>Potential Effects: <i>None</i></p> <p>There will be no resource requirements from any European site as a result of the proposed development. Potential for significant effects has been excluded.</p> <p>Emissions</p> <p>Potential Effects: <i>None</i></p> <p>Potential emissions will be soil sediment, wet concrete and dust nuisance. Leachate will continue to be produced as part of existing capped landfill, however the proposed development will not contribute to leachate emissions.</p> <p>Soil sediment</p> <p>Any potential sediment that enters the surrounding drainage network during the proposed development are expected to be limited in amount (topsoil to be used approximately 50m³) and duration (3-5 days) during the capping repair phase, and up to 6 months during the establishment of the grass layer. The slow flowing/ depositing nature of the drainage network will mean that any sediment that enters will most likely be deposited before entering the River Suileen (to the north) or the Clare (Galway)_060 (to the south). Therefore the potential effects will be localised to the surrounding drainage network.</p> <p>Potential for significant effects has been excluded.</p> <p>Wet Concrete</p> <p>Any potential wet concrete release during the installation of the palisade fencing are expected to be limited in amount (0.05m³ per foundation location) and duration (2-3 weeks). With respect to ph, the amount of wet concrete to be used on site (0.05m³ per foundation location) relative to the total area of the sub-catchment (34km²) and the depositing nature of the drainage network, indicates any likelihood of alteration to ph levels will be localised to the drainage network.</p>



Assessment Criteria	Discussion of Potential for Significant Effects
	<p>Diluting as the water passes to the higher flow rates of the 1st order River Suileen (to the north) or the Clare (Galway)_060 (to the south). There is a very low risk of this happening, due to the nature of the concrete mix (lean mix concrete) being used and the low viscosity. Potential for significant effects has been excluded.</p> <p>Dust</p> <p>Refer to section 3.3.1</p> <p>Potential for significant effects has been excluded.</p> <p><i>Operation</i></p> <p>Leachate</p> <p>The existing remediation works have been preventing rainwater from infiltrating the interred waste body therefore reducing the potential for leachate to be produced and leachate production will eventually tail off. The proposed development will reinforce to the existing works and therefore have a positive effect on surface/ ground water quality locally.</p> <p>Potential for significant effects has been excluded.</p> <p>Excavation requirements</p> <p>Potential Effects: None</p> <p>There will be no excavation requirements from any European site as a result of the proposed development. Potential for significant effects has been excluded.</p> <p>Transportation requirements</p> <p>Potential Effects: None.</p> <p>The site will be accessed via the existing waste recycling centre road and the R347. No potential effect to any European site is anticipated. Potential for significant effects has been excluded.</p>



Assessment Criteria	Discussion of Potential for Significant Effects
	<p>Duration of Works</p> <p>Potential Effects: <i>None.</i></p> <p>It is anticipated that the proposed development will occur over approximately 2-3 weeks (capping repair, fence installation/ repair and locating new monitoring stations), the establishment of the grass layer will be up to a further 6 months (worst case). Following the proposed development, further environmental monitoring will be undertaken in accordance with the Certificate of Authorisation granted by the EPA. Once the grass layer has become established, the site will be managed and maintained by Galway County Council including limited mowing works and/or low impact grazing (e.g., sheep).</p> <p>Potential for significant effects has been excluded.</p> <p>Cumulative Effects</p> <p>Potential Effects: <i>None.</i></p> <p><i>Planning Applications</i></p> <p>The planning search highlighted two large scale applications, both for the construction of a solar photovoltaic farm and ancillary infrastructure, ID: 201387 surrounding the proposed development site and ID: 191315 located c.500m south.</p> <p>The AA screening for both solar farms identified that there was the potential for significant effects on Lough Corrib SAC via a reduction in water quality due to pollutants/sediment entering watercourses during the construction stage. However, the NIS for each concluded that with the implementation of the mitigation measures proposed, there will not be significant impacts on water quality of nearby watercourses and therefore the named SACs.</p> <p>Due to the limiting factors of the proposed development (use of approximately 50m³ of soil and duration of 2-3 weeks) and the proposed mitigation measures outlined in the NIS reports of each solar farm, potential in-combination effects are not expected.</p> <p><i>Farming / Peat extraction</i></p> <p>Farmland and peatland are widespread in the surrounding environment and intensive grassland management is noted close to (but not within) the proposed development site. In general, farming and commercial peat extraction (until 2020) contribute to water pollution.</p>



Assessment Criteria	Discussion of Potential for Significant Effects
	<p>The main potential impact would be an increase in nutrient levels of local watercourses as a result of soil deposition. However, due to the limiting factors of the proposed project (approximately 50m³ of topsoil and short duration), potential for significant in-combination effects are not expected.</p> <p>As outlined above, the existing remediation works have been preventing rainwater from infiltrating the interred waste body therefore reducing the potential for leachate to be produced. The proposed development will reinforce to the existing works and therefore have a positive effect on the quality of the local surface and ground water.</p> <p>Potential for significant in-combination effects has been excluded.</p> <p><i>Plans</i></p> <p>The following development plans have been reviewed and taken into consideration as part of this assessment.</p> <ul style="list-style-type: none"> • Tuam Local Area Plan 2018-2024 <ul style="list-style-type: none"> ○ Policy NH 1 – Natural Heritage, Landscape and Environment ○ Objective NH 1 – European Sites ○ Objective NH 2 – Protected Habitats and Species ○ Objective NH 4 – Impact Assessments ○ Objective NH 5 – Biodiversity & Ecological Networks ○ Objective NH 6 Water Resources • Galway County Development Plan 2015-2021 <ul style="list-style-type: none"> ○ Policy NHB 1 – Natural Heritage and Biodiversity ○ Policy NHB 4 – Water Resources ○ Policy NHB 8 – National Parks and Wildlife Service (NPWS) Management Plans ○ Objective NHB 1 – Protected Habitats and Species ○ Objective NHB 2 – Biodiversity and Ecological Networks ○ Objective NHB 3 – Water Resources ○ Objective NHB 4 – Geological and Geo-Morphological Systems ○ Objective NHB 6 – Protection of Bats and Bats Habitats ○ Objective NHB 12 – Soil/Ground Water Protection



Assessment Criteria	Discussion of Potential for Significant Effects
	<p>The review focused on policies and objectives that relate to European sites. Refer to Appendix 3 for full text for each policy and objective.</p> <p>The proposed development has taken all the aforementioned plans into account and does not contravene any of the above policies and objectives. The proposed development in-combination with the plans will have a positive effect on the local environment.</p>
<p><i>Describe any likely changes to the site arising as a result of:</i></p> <ul style="list-style-type: none"> ▪ <i>Reduction of habitat area;</i> ▪ <i>Disturbance of key species;</i> ▪ <i>Habitat or species fragmentation;</i> ▪ <i>Reduction in species density;</i> ▪ <i>Changes in key indicators of conservation value;</i> ▪ <i>Climate change.</i> 	<p>There will be no direct or indirect reduction in habitat area or habitat fragmentation within any European site as a result of the proposed development.</p> <p>There will be no predicted effect via disturbance of key species or reduction of key species as a result of the proposed development. There will be no predicted changes in key indicators of conservation value as a result of the proposed development.</p> <p>This is due to the limited scale of works (repair of existing remediation works and installation/ repair of boundary fencing), nature of works (the resulting remediation will reinforce to the existing works, continuing the prevention of rainwater infiltrating into the interred waste body and reducing the release of leachate entering surface/ ground water) and distance (closest European site with hydrological connectivity is 1.9km (2.5km in-stream) away).</p>
<p><i>Describe any likely impacts [effects] on the Natura 2000 site as a whole in terms of:</i></p> <ul style="list-style-type: none"> ▪ <i>Interference with the key relationships that define the structure of the site;</i> ▪ <i>Interference with key relationships that define the function of the site.</i> 	<p>There are no potential effects on the key relationships that define the structure or function of any European site considered in this Appropriate Assessment Screening.</p>
<p><i>Provide indicators of significance as a result of the identification of effects set out above in terms of:</i></p> <ul style="list-style-type: none"> ▪ <i>loss,</i> ▪ <i>fragmentation,</i> ▪ <i>disruption,</i> ▪ <i>disturbance,</i> 	<p>Potential for significant effects has been excluded in regard to the proposed development, therefore, an indicator of significance is not required.</p>



Assessment Criteria	Discussion of Potential for Significant Effects
<ul style="list-style-type: none"> ▪ <i>change to key elements of the site (e.g., water quality etc.).</i> 	
<p><i>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts [effects] are likely to be significant or where the scale of magnitude of impacts [effects] is not known.</i></p>	<p>No significant effects or effects of unknown scale or magnitude, either alone or in-combination with other projects or plans will occur.</p>

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6. CONCLUSION

No pathways for significant effect on any European sites were identified. Thus, it can be concluded beyond reasonable scientific doubt, in view of best scientific knowledge and on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed project individually or in combination with other plans and projects, would not be likely to have significant effect on any European sites. The findings of this report for screening for Appropriate Assessment are summarised in the Findings of No Significant Effects Matrix in Appendix 4 and are presented to aid the Competent Authority in their screening assessment.

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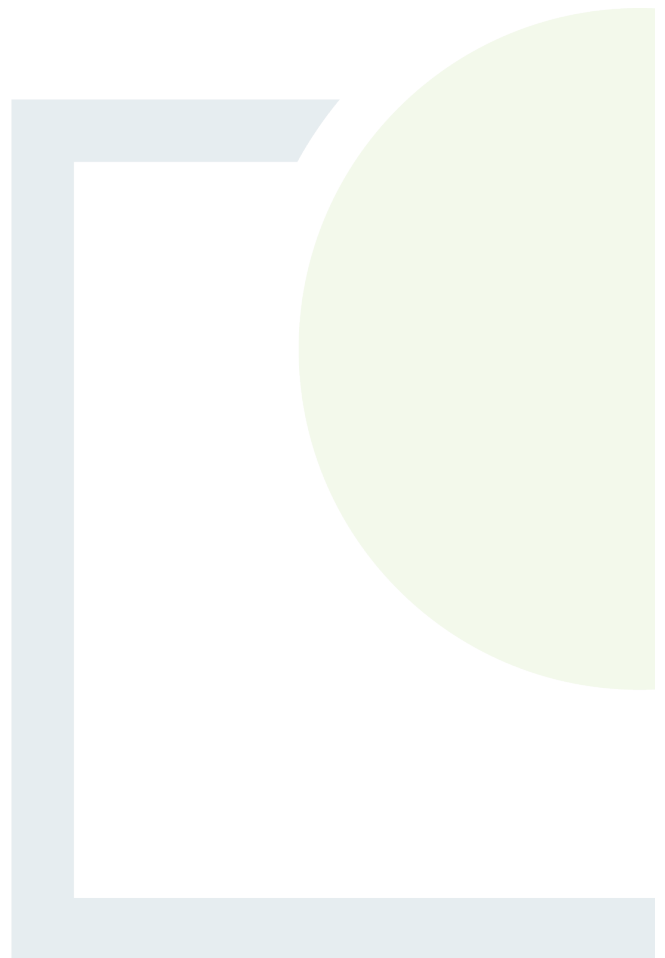
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APPENDIX 1

Proposed Development
Figures

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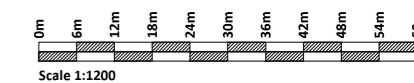




- Legend:
- Existing Fence to be Surveyed and Repaired as required
 - Existing Fencing to be Retained
 - - - Proposed Security Fence



PLAN
Scale 1:1200



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2282,2813-04,2813-05,2813-09,2813-10,2813-14,2813-15,2813-19,2813-20,2813-A,2813-B,2813-C,2813-D,2814,2814-01,2814-06,2814-11,2814-16,2814-A,2814-C,2881,2881-A,2881-B,2881-C,3354,3802-22,3802-A,3802-B,3802-C,3802-D



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Rev.	Description	App By	Date
A	FOR INFORMATION	JON	20.01.21

PROJECT	ERA GALWAY HISTORIC LANDFILLS			CLIENT	GALWAY COUNTY COUNCIL			
SHEET	EXISTING AND PROPOSED FENCING (TUAM HISTORIC LANDFILL)			Date	20.01.21	Project number	P2282	
				Scale (@ A3)	1:1200		Rev	A
				Drawn by	POR	Drawing Number		
				Checked by	AB			

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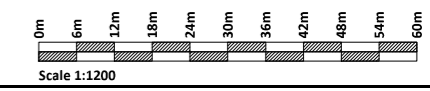


- Legend:
- Existing Landfill Capping Area
 - Localised Areas of Poaching to be repaired as required



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PLAN
Scale 1:1200



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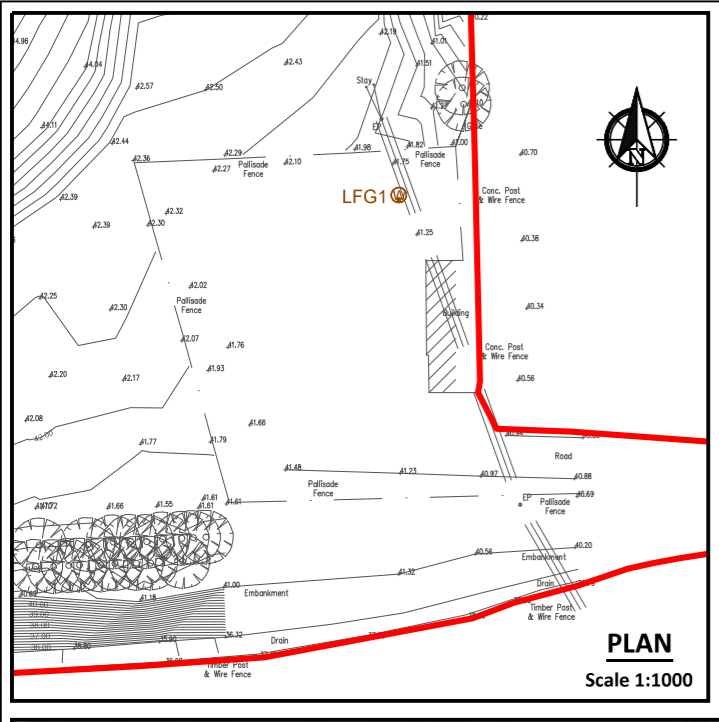
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Rev.	Description	App By	Date
A	FOR INFORMATION	JON	20.01.21

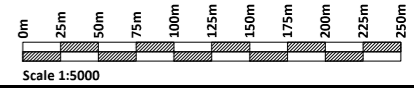
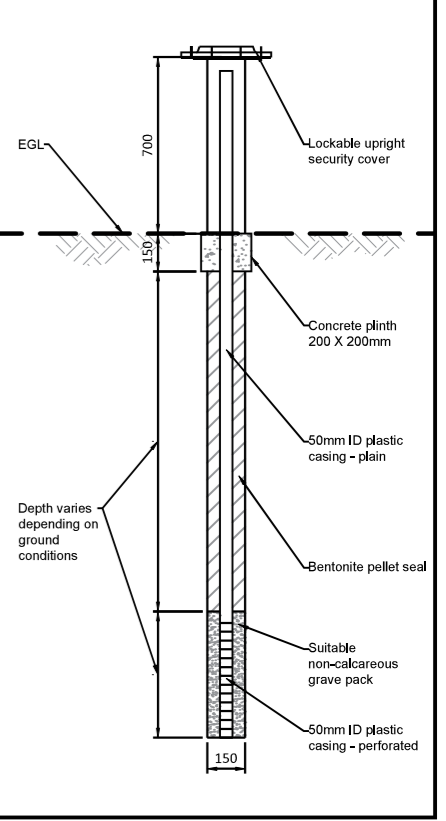
PROJECT	ERA GALWAY HISTORIC LANDFILLS		
SHEET	PROPOSED REPAIRS TO EXISTING LANDFILL CAPPING (TUAM HISTORIC LANDFILL)		

CLIENT	GALWAY COUNTY COUNCIL		
Date	20.01.21	Project number	P2282
Scale (@ A3)	1:1200		
Drawn by	POR	Drawing Number	P2282-0101-0003
Checked by	AB	Rev	

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- Legend:**
- ... Proposed LFG Monitoring Well
 - ... Proposed GW Monitoring Well
 - ... Existing GW Monitoring Well
 - ... Existing SW Monitoring Locations
 - Site Boundary
 - Building Fully enclosed internal areas within buildings to be fitted with Continuous Emissions Monitors



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2282,2813-04,2813-05,2813-09,2813-10,2813-14,2813-15,2813-19,2813-20,2813-A,2813-B,2813-C,2813-D,2814,2814-01,2814-06,2814-11,2814-16,2814-A,2814-C,2881,2881-A,2881-B,2881-C,3354,3802-22,3802-A,3802-B,3802-C,3802-D



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Rev.	Description	App By	Date
A	FOR INFORMATION	JON	20.01.21

PROJECT	ERA GALWAY HISTORIC LANDFILLS			CLIENT	GALWAY COUNTY COUNCIL			
	SHEET	EXISTING & PROPOSED MONITORING LOCATIONS (TUAM HISTORIC LANDFILL)			Date	20.01.21	Project number	P2282
					Scale (@ A3)	As Shown		
					Drawn by	POR	Drawing Number	P2282-0101-0004
					Checked by	AB	Rev	

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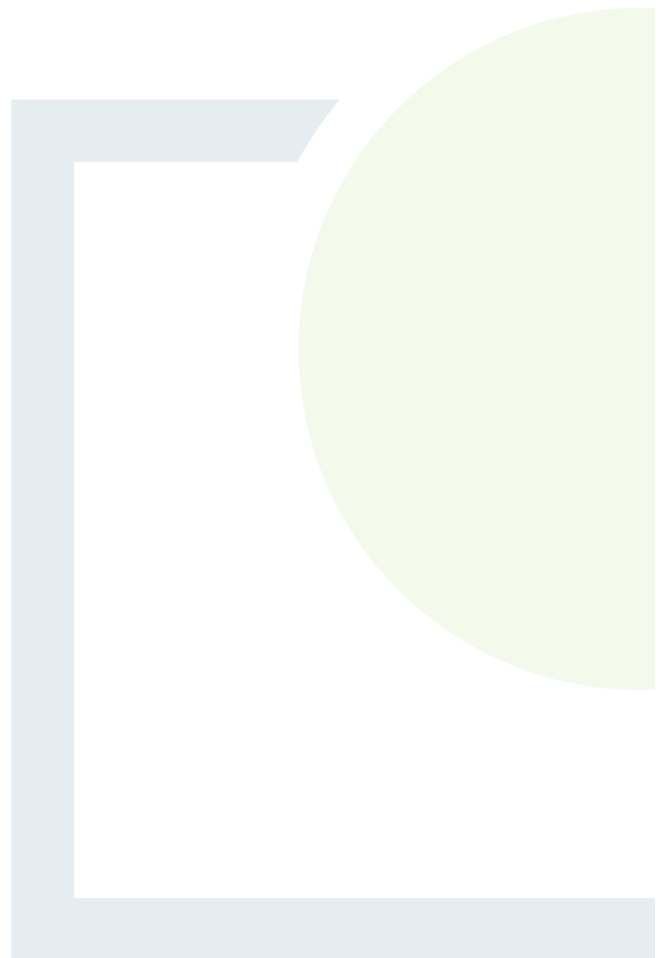


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APPENDIX 2

European Site Synopses

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Site Name: Lough Corrib SAC

Site Code: 000297

Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north. The surrounding lands to the south and east are mostly pastoral farmland, while bog and heath predominate to the west and north. A number of rivers are included within the cSAC as they are important for Atlantic Salmon. These rivers include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland and limestone pavement, have been incorporated into the site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes).

- [3110] Oligotrophic Waters containing very few minerals
- [3130] Oligotrophic to Mesotrophic Standing Waters
- [3140] Hard Water Lakes
- [3260] Floating River Vegetation
- [6210] Orchid-rich Calcareous Grassland*
- [6410] *Molinia* Meadows
- [7110] Raised Bog (Active)*
- [7120] Degraded Raised Bog
- [7150] Rhynchosporion Vegetation
- [7210] *Cladium* Fens*
- [7220] Petrifying Springs*
- [7230] Alkaline Fens
- [8240] Limestone Pavement*
- [91A0] Old Oak Woodlands
- [91D0] Bog Woodland*

- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)

- [1096] Brook Lamprey (*Lampetra planeri*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*)
- [1355] Otter (*Lutra lutra*)
- [1393] Slender Green Feather-moss (*Drepanocladus vernicosus*)
- [1833] Slender Naiad (*Najas flexilis*)

The shallow, lime-rich waters of the southern basin of Lough Corrib support one of the most extensive beds of stoneworts (Charophytes) in Ireland, with species such as *Chara aspera*, *C. hispida*, *C. delicatula*, *C. contraria* and *C. desmacantha* mixed with submerged pondweeds (*Potamogeton perfoliatus*, *P. gramineus* and *P. lucens*), Shoreweed (*Littorella uniflora*) and Water Lobelia (*Lobelia dortmanna*). These *Chara* beds are an important source of food for waterfowl. In contrast, the northern basin contains more oligotrophic and acidic waters, without *Chara* species, but with Shoreweed, Water Lobelia, Pipewort (*Eriocaulon aquaticum*), Quillwort (*Isoetes lacustris*), Alternate Water-milfoil (*Myriophyllum alternifolium*) and Slender Naiad (*Najas flexilis*). The last-named is listed under the Flora (Protection) Order, 2015, and is an Annex II species under the E.U. Habitats Directive.

Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), occur around the margins of the lake. Reedswamp usually grades into species-rich marsh vegetation characterised by Slender Sedge (*Carex lasiocarpa*), Water Mint (*Mentha aquatica*), Water Horsetail (*Equisetum fluviatile*) and Bogbean (*Menyanthes trifoliata*). Of particular note are the extensive beds of Great Fen-sedge (*Cladium mariscus*) that have developed over the marly peat deposits in sheltered bays, particularly in the south-east corner of the lake. Alkaline fen vegetation is more widespread around the lake margins and includes, amongst the typically diverse range of plants, the Slender Cottongrass (*Eriophorum gracile*), a species protected under the Flora (Protection) Order, 2015. Wet meadows dominated by Purple Moor-grass (*Molinia caerulea*) occur in seasonally flooded areas close to the lake shore. These support species such as Sharp-flowered Rush (*Juncus acutiflorus*), Jointed Rush (*J. articulatus*), Carnation Sedge (*Carex panicea*), Devil's-bit Scabious (*Succisa pratensis*), Creeping Bent (*Agrostis stolonifera*) and Tormentil (*Potentilla erecta*), amongst others.

This large site contains four discrete raised bog areas and is selected for active raised bog, degraded raised bog, Rhynchosporion and bog woodland. Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum* spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, *Sphagnum* lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (*Rhynchospora alba*) and/or Brown Beak-sedge (*R. fusca*), and at least some

of the following associated species, Bog Asphodel (*Narthecium ossifragum*), sundews (*Drosera* spp.), Deergrass (*Scirpus cespitosus*) and Carnation Sedge.

At Addergoole, on the eastern shores of Lough Corrib, there is an important area of western raised bog. This bog area is one of the most westerly, relatively intact raised bogs in the country. There are also other substantial areas of raised bog along various tributaries of the Corrib in east Co. Galway, namely Slieve Bog, Lough Tee Bog and Killaclogher bog. The active parts of these bogs mostly correspond to the wettest areas, where there are well-developed surface features with hummocks, lawns and pools. It is in such areas that Rhynchosporion vegetation is best represented. The dominant species is the aquatic bog moss *Sphagnum cuspidatum*, which is usually accompanied by Bogbean, White Beak-sedge, Bog Asphodel, Common Cottongrass (*Eriophorum angustifolium*), Bog Sedge (*Carex limosa*) and Great Sundew (*Drosera anglica*). Brown Beak-sedge, a locally rare plant of wet bog pools, has been recorded from a number of the bog areas within the site. At Addergoole a substantial bog lake or soak occurs and this is infilling with large rafts of Rhynchosporion vegetation at present. This area is associated with an important area of wet bog woodland dominated by Downy Birch (*Betula pubescens*).

The largest part of the uncut high bog comprises degraded raised bog. Degraded bog is dominated by a raised bog flora which tends to be rather species-poor because of disturbance and/or drying-out. The most conspicuous vascular plant species are usually Carnation Sedge, Heather (*Calluna vulgaris*), Cottongrasses, Cross-leaved Heath (*Erica tetralix*), Bog Asphodel and Deergrass. Bog-rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*), two species indicative of raised bog habitat, are frequent on both degraded and active areas of raised bog. *Sphagnum* cover is generally low within degraded areas due to a combination of drying-out and frequent burning.

Limestone pavement occurs along much of the shoreline in the lower Corrib basin, and supports a rich and diverse flora, including Herb-Robert (*Geranium robertianum*), Bloody Crane's-bill (*G. sanguineum*), Carline Thistle (*Carlina vulgaris*), Spring Gentian (*Gentiana verna*), Wild Thyme (*Thymus praecox*), Rustyback (*Ceterach officinarum*), Wood Sage (*Teucrium scorodonia*), Slender St. John's-wort (*Hypericum pulchrum*), Quaking-grass (*Briza media*) and Blue Moor-grass (*Sesleria albicans*). Areas of Hazel (*Corylus avellana*) scrub occur in association with exposed limestone pavement and these include species such as Hawthorn (*Crataegus monogyna*), Buckthorn (*Rhamnus catharticus*), Spindle (*Euonymus europaeus*), with occasional Juniper (*Juniperus communis*). Three Red Data Book species are also found in association with limestone scrub - Alder Buckthorn (*Frangula alnus*), Shrubby Cinquefoil (*Potentilla fruticosa*) and Wood Bitter-vetch (*Vicia orobus*), the latter is also protected under the Flora (Protection) Order, 2015.

Open areas of orchid-rich calcareous grassland are also found in association with the limestone exposures. These can support a typically rich vegetation, including many orchids such as Pyramidal Orchid (*Anacamptis pyramidalis*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Early-purple Orchid (*Orchis mascula*), Frog Orchid (*Coeloglossum*

viride), Fragrant Orchid (*Gymnadenia conopsea*), Marsh Helleborine (*Epipactis palustris*), Greater Butterfly-orchid (*Platanthera chlorantha*) and Irish Lady's-tresses (*Spiranthes romanzoffiana*). The latter is protected under the Flora (Protection) Order, 2015.

The Hill of Doon, located in the north-western corner of the lake, is a fine example of a Sessile Oak (*Quercus petraea*) woodland. The understorey is dominated by Sessile Oak, Holly (*Ilex aquifolium*) and occasional Juniper. There are occasional Yew (*Taxus baccata*) and Ash (*Fraxinus excelsior*), and a well-developed ground layer dominated by Bilberry (*Vaccinium myrtillus*), Hard Fern (*Blechnum spicant*) and Wood Rush (*Luzula sylvatica*). Woodland also occurs on some of the islands in the lake.

A number of the rivers in the site support submerged and floating vegetation of the Ranunculion fluitantis and Callitriche-Batrachion, including mosses. For example, in the River Corrib species such as Shining Pondweed (*Potamogeton lucens*), Perfoliate Pondweed (*Potamogeton perfoliatus*), Small Pondweed (*P. berchtoldii*), Yellow Water-lily (*Nuphar lutea*), White Water-lily (*Nymphaea alba*) and stoneworts (*Chara* spp.) occur.

The rare and Annex II-listed Slender Green Feather-moss (*Drepanocladus [Hamatocaulis] vernicosus*) is found at the fen at Gortachalla, north-east of Moycullen. Here it is widespread around the margins, and this constitutes a large and significant population in the national context. A very large population of another rare moss, *Pseudocalliergon trifarium*, is also found in this area.

The lake is rated as an internationally important site for waterfowl. Counts from 1984 to 1987 revealed a mean annual peak total of 19,994 birds. In the past a maximum peak of 38,281 birds was recorded. The lake supports internationally important numbers of Pochard (average peak 8,600) and nationally important numbers of the following species: Coot (average peak 6,756), Mute Swan (average peak 176), Tufted Duck (average peak 1,317), Cormorant (average peak 110) and Greenland White-fronted Goose (average peak 83). The latter species is listed on Annex I of the E.U. Birds Directive. The Coot population is the largest in the country and populations of Tufted Duck and Pochard are second only to Lough Neagh. Breeding pairs of Common Scoter on the lake number 30-41 (1995 data), as well as breeding populations of Arctic Tern and Common Tern. Other bird species of note recorded from or close to the lake recently include Hen Harrier, Whooper Swan, Golden Plover and Kingfisher. All of these species are listed on Annex I of the E.U. Birds Directive.

Otter and Irish Hare have been recorded regularly within this site. Both of these species are listed in the Red Data Book and are legally protected by the Wildlife Act, 1976. Otter is also listed on Annex II of the E.U. Habitats Directive. Lough Corrib is considered one of the best sites in the country for Otter, due to the sheer size of the lake and associated rivers and streams, and also the generally high quality of the habitats. Atlantic Salmon (*Salmo salar*) use the lake and rivers as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be

endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. Lough Corrib is also a well-known fishing lake with a very good Trout (*Salmo trutta*) fishery. The lake has a population of Sea Lamprey (*Petromyzon marinus*), a scarce, though probably under-recorded species listed on Annex II of the E.U. Habitats Directive. Brook Lamprey (*Lampetra planeri*), also listed on Annex II, are also known from a number of areas within the site.

A population of Freshwater Pearl Mussel (*Margaritifera margaritifera*), a species listed on Annex II of the E.U. Habitats Directive, occurs within the site. White-clawed Crayfish (*Austropotamobius pallipes*), also listed on Annex II, is well distributed throughout Lough Corrib and its in-flowing rivers over limestone. A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within the site - approximately 100 animals were recorded here in 1999.

The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development.

Despite these ongoing issues, however, Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented. These include 15 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is also internationally important for birds and is designated as a Special Protection Area.



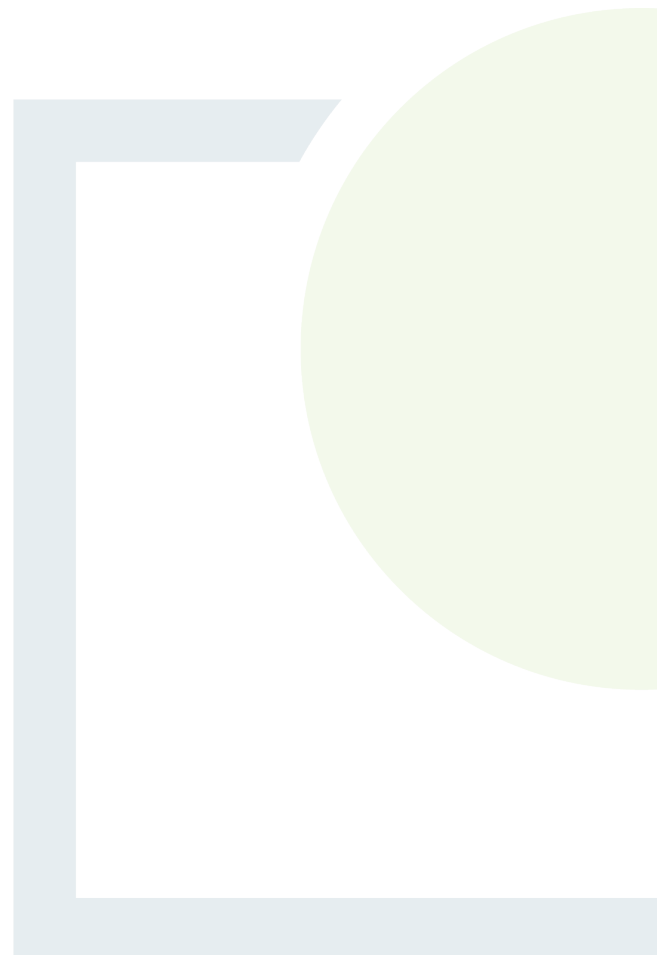
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APPENDIX 3

Plans - Key Policies and
Objectives

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Plan	Key Policies and Objectives
Tuam Local Area Plan 2018-2024	<p>Policy NH 1 – Natural Heritage, Landscape and Environment</p> <p>It is the policy of Galway County Council, to support the conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European Sites, the protection of Natural Heritage Areas and proposed Natural Heritage Areas and the promotion of the development of a green/ecological network within the plan area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment. The protection of natural heritage and biodiversity, including European Sites, will be implemented in accordance with relevant EU environmental directives and applicable national legislation, policies, plans and guidelines, including the following (and any updated/superseding documents):</p> <p>EU Directives, including the Habitats Directive (92/43/EEC), the Birds Directive (2009/147/EC codified version of Directive), the Environmental Impact Assessment Directive (85/337/EEC) & EIA Directive (2014/52/EU), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC); the Environmental Liability Directive 2004/35/EC;</p> <p>National legislation, including the Wildlife Act 1976, the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development (Amendment) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) and the Regulation of the European Parliament and of the Council on the Prevention and Management of the Introduction and Spread of Invasive Non-Native Species [2013/0307 (COD)] (adopted by European Council coming into effect January 2015)</p> <p>National policy guidelines, including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidelines 2010.</p> <p>Catchment and water resource management plans, including the Western River Basin District Management Plan 2009-2015 (and as updated).</p> <p>Biodiversity plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland’s National Biodiversity Plan, the Biodiversity Action Plan for County Galway 2008-2013 and the Biodiversity Guidelines produced by Galway County Council.</p> <p>Objective NH 1 – European Sites</p> <p>Protect European sites that form part of the European Sites network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the Appropriate Assessment Guidelines 2010 (and any updated/superseding guidance).</p>

A plan or project (e.g., proposed development) within the plan area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and a Habitats Directive Assessment where necessary, that:

The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any European Sites (either individually or in combination with other plans or projects); or

The plan or project will adversely affect the integrity of any European Sites (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of European Sites; or

The plan or project will adversely affect the integrity of any European Sites (that hosts a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to

beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of European Sites.

Objective NH 2 – Protected Habitats and Species

Support the protection of protected habitats and species listed in the annexes to the EU Habitats Directive 1992 (92/43/EEC) and the Birds Directive (2009/147/EC) and regularly occurring-migratory birds and their habitats, species protected under the Wildlife Acts and the Flora Protection Order. This includes the protection of the barn owl, otters, salmon, brook lamprey, bats and their roosts and the maintenance of woodland, hedgerows, tree lines, waterways and ecological networks and corridors which serve as feeding areas, flight paths and community routes for bats.

Objective NH 4 – Impact Assessments

Ensure full compliance with the requirements of the EU Habitats Directive (92/43/EEC), SEA Directive (2001/42/EC) and EIA Directives including 2011/92/EU & 2014/52/EU and associated legislation/regulations, including the associated European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004-2011, Planning and Development (Strategic Environmental Assessment) Regulations 2004-2011 and the European Communities (Environmental Impact Assessment) Regulations 1989-2011 & European Union (Environmental Impact Assessment) Planning and Regulations 2014 (or any updated/superseding legislation). Planning applications for proposed developments within the plan area that may give rise to likely significant effects on the environment may need to be accompanied by one or more of the following: an Environmental Impact Statement, an Ecological Impact Assessment Report, a Habitats Directive Assessment Screening Report or a Natura Impact Statement, as appropriate. Ensure that Natura Impact Statements and any other environmental or ecological impact assessments submitted in support of proposals for development are carried out according to best practice methodologies and contain all necessary baseline assessments.

	<p>Objective NH 5 – Biodiversity & Ecological Networks</p> <p>Support the protection of biodiversity and ecological connectivity within the plan area including woodlands, trees, hedgerows, roadside verge vegetation, rivers, streams, natural springs, wetlands, stonewalls, fens, geological and geo-morphological systems, other landscape features and associated wildlife, where these form part of the ecological network. Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive:</p> <p>a) Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors and stepping stones.</p> <p>b) Protect and enhance the water quality and ecology of the River Nanny, the River Clare and the Suileen River in the plan area and their function of as ecological corridors, by maintaining the existing banks and channel and ensuring that new developments are generally set back at least 10m as measured from the near river bank (this distance may be increased and decreased on a site by site basis, as appropriate).</p> <p>c) Maintain and enhance biodiversity through the appropriate planting of native trees, shrubs and hedgerows indigenous to the area and of Irish provenance in public and private areas and in new developments.</p> <p>d) Seek to prevent the introduction of imported ash trees/plants or other such species into the plan area in line with the Plant Health Directive and any updated legislation.</p>
	<p>Objective NH 6 Water Resources</p> <p>Protect all water resources in the plan area, including rivers, streams, springs, wetlands, surface waters and groundwater quality, in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the Western River Basin Management Plan 2009-2015 (and subsequent National River Basin Management Plan) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). Support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development in the plan area.</p>
<p>Galway County Development Plan 2015-2021</p>	<p>Policy NHB 1 – Natural Heritage and Biodiversity</p> <p>It is the policy of Galway County Council to support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries and Connemara National Park (and other designated sites including any future designations) and the promotion of the development of a green/ecological network within the plan area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment.</p>
	<p>Policy NHB 4 – Water Resources</p> <p>Protect, conserve and enhance the water resources of the County, including, rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependant species and seek to protect and conserve the quality, character and features of inland waterways by controlling developments close to navigable and non-navigable waterways.</p>

	<p>Policy NHB 8 – National Parks and Wildlife Service (NPWS) Management Plans</p> <p>It shall be the policy of the Council to ensure that development takes into account any relevant Management Plans prepared by NPWS for SACs and SPAs.</p>
<p>Objective NHB 1 – Protected Habitats and Species</p> <p>Support the protection of habitats and species listed in the Annexes to and/or covered by the EU Habitats Directive (92/43/EEC) (as amended) and the Birds Directive (2009/147/EC), and regularly occurring-migratory birds and their habitats and species protected under the Wildlife Acts 1976-2000 and the Flora Protection Order.</p>	
<p>Objective NHB 2 – Biodiversity and Ecological Networks</p> <p>Support the protection and enhancement of biodiversity and ecological connectivity within the plan area, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.</p>	
<p>Objective NHB 3 – Water Resources</p> <p>Protect the water resources in the plan area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependant species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the Western River Basin District Management Plan 2009-2015, Shannon International River Basin Management Plan 2009-2015 and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans.</p>	
<p>Objective NHB 4 – Geological and Geo-Morphological Systems</p> <p>Protect and conserve geological and geo-morphological systems, sites and features from inappropriate development that would detract from their heritage value and interpretation and ensure that any plan or project affecting karst formations, eskers or other important geological and geo-morphological systems are adequately assessed with regard to their potential geophysical, hydrological or ecological impacts on the environment.</p>	
<p>Objective NHB 6 – Protection of Bats and Bats Habitats</p> <p>Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stonewalls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Any assessment shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate.</p>	
<p>Objective NHB 12 – Soil/Ground Water Protection</p> <p>Developments shall ensure that adequate soil protection measures are undertaken, where appropriate, including investigations into the nature and extent of any soil/groundwater contamination.</p>	

Objective NHB 13 – NPWS and Integrated Management Plans

Galway County Council shall seek to engage with and support the National Parks & Wildlife Service to ensure Integrated Management Plans are prepared for all Natura 2000 sites and ensure that such plans are fully integrated with all land use and water management plans in the County, with the intention that such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities.

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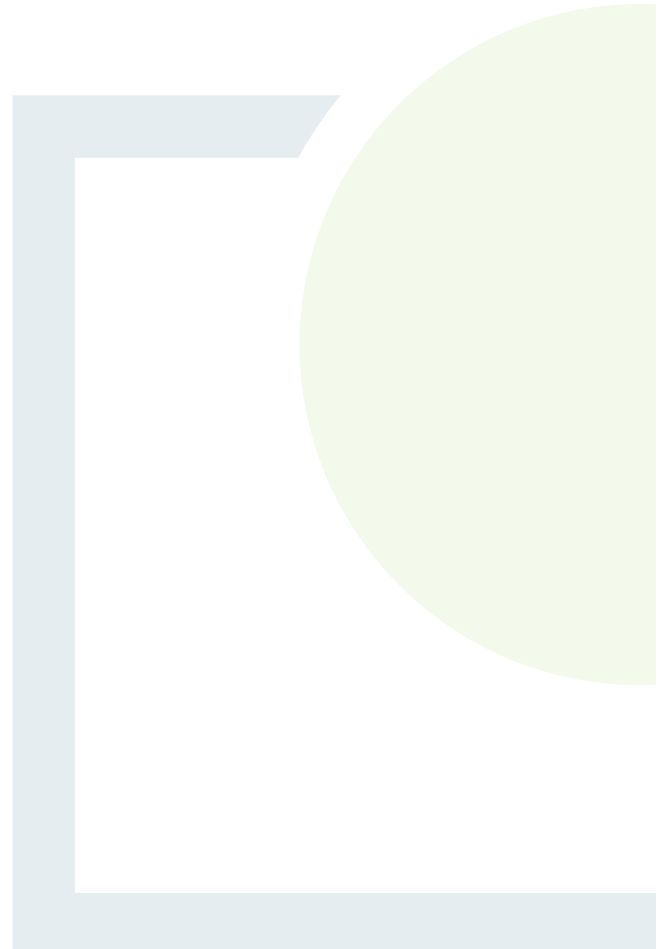
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APPENDIX 4

Finding of No Significant Effects Report

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Finding of No Significant Effects Report

<p><i>Name and location of the Natura 2000 sites</i></p>	<ul style="list-style-type: none"> • Lough Corrib SAC (Site Code: 000297) 1.9 km West (2.5km in-stream)
<p><i>Description of the project or plan</i></p>	<p>The proposed remediation works comprise the following elements:</p> <ul style="list-style-type: none"> • Repair of existing landfill capping <ul style="list-style-type: none"> ○ estimated 50m³ of topsoil ○ estimated 3-5 days • New Perimeter Security Fencing <ul style="list-style-type: none"> ○ installed along the site perimeter and site entrance ○ replace existing damaged fencing adjacent to watercourse ○ palisade fencing along site entrance <p>Access to the site will be via the R347, Athenry Road which runs between Tuam and Athenry and along the existing civic centre access road.</p>
<p><i>Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?</i></p>	<p>No.</p>
<p><i>Are there other projects or plans that together with the project of plan being assessed could affect the site (provide details)?</i></p>	<p>No.</p> <ul style="list-style-type: none"> • Small scale residential upgrades • Commercial related developments • Solar photovoltaic farm and ancillary infrastructure (ID: 201387) • Solar photovoltaic farm and ancillary infrastructure application (ID: 191315) <p>NIS for each concluded that with the implementation of the mitigation measures proposed, there will not be significant impacts on water quality of nearby watercourses and therefore the named SACs.</p>

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Finding of No Significant Effects Report

Assessment of Effects

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site

In the case of Lough Corrib SAC, which is connected to the proposed development via the drainage and river network, the potential for negative hydrological and water quality impacts must be considered.

Construction phase:

- Pollution events
 - Sediment runoff from the exposed areas of topsoil during capping repair entering surrounding drainage network effecting aquatic SCI's
 - Sediment runoff from newly laid areas of topsoil entering surrounding drainage network effecting aquatic SCI's
 - Wet concrete entering drains adjacent to palisade fencing foundation works effecting aquatic SCI's
- Disturbance
 - Increase in machinery and personnel on site disturbing SCI species (birds / mammals)
 - Increase in noise due to earthworks disturbing SCI species (birds / mammals)
 - Increase in vibrations due to rotary core drilling disturbing SCI species (birds / mammals)

Operational phase:

- Disturbance of existing commuting corridors for terrestrial mammals due to new exclusion fencing

Explain why these effects are not considered significant

As the proposed development is not located within any European site, there will be no direct effect as a result of the size and scale of the development. There will be no direct habitat loss (land take) from any European site as a result of the proposed design amendments.

The proposed development will reinforce to the existing works (preventing rainwater from infiltrating the interred waste body therefore reducing the potential for leachate to be produced which will eventually tail off) and therefore have a positive effect on surface/ ground water quality locally.

There is a hydrological link between the development and the Lough Corrib SAC. However, due to the instream distance between the development, the limited anticipated impacts from the nature of the works and the slow flowing/ depositing nature of the drainage network, no indirect effects on SCI's as a result of degradation of water quality are expected. Water quality impacts will not have an effect beyond the surrounding drainage network.

Finding of No Significant Effects Report

Name of Agency or Body Consulted	Summary of Response
-	Consultation was not undertaken due to the positive nature of the works (in terms of leachate) and the lack of potential significant effects.

Data Collected to Carry out the Assessment

Who carried out the assessment	Sources of Data	Level of assessment completed	Where can the full results of the assessment be accessed and viewed
This evaluation was completed by Fehily Timoney and Company	<ul style="list-style-type: none"> Information on the designated nature conservation sites within ZOI was obtained from the NPWS website and metadata available online from the NPWS mapping system (http://webgis.npws.ie/npwsviewer/). Online data available on what qualifies as a rare or threatened species as held by the National Parks and Wildlife Services (NPWS) from www.npws.ie Online data available on what qualifies as a rare or threatened species and on European sites as held by the National Biodiversity Data Centre from https://maps.biodiversityireland.ie/ Information on the status of EU protected habitats and species in Ireland (NPWS, 2013a and 2013b) from www.npws.ie Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie Information on land-use zoning and National planning applications from the online mapping of the Department of the Environment, Community and Local Government www.myplan.ie Department of Housing, Planning and Local Government. River Basin Management Plan for Ireland 2018-2021 from https://www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021 Information on water quality from the European Protection Agency website https://gis.epa.ie/EPAMaps/ Information on local watercourses EPA Catchments website https://www.catchments.ie/ 	Appropriate Assessment Screening (Stage One)	Environmental Protection Agency

Finding of No Significant Effects Report

- Information on the waterbody catchments in the development area was obtained from the Water Framework Directive Water Mapping Information System <http://gis.epa.ie/Envision>
- Inland Fisheries Ireland <https://www.fisheriesireland.ie/>
- Information on soils, geology and hydrogeology from Geoscience Survey Ireland (GSI) website www.gsi.ie
- Department of Culture, Heritage and Gaeltacht. 2017-2021. National Biodiversity Action Plan
- Galway County Development Plan 2015-2021
<http://www.galway.ie/en/services/planning/planspolicy/gcdp2021/>
- Tuam Local Area Plan 2018-2024 <http://www.galway.ie/en/services/planning/planspolicy/lap/tuam/>
- Galway County Council Planning Enquiry System <http://www.eplanning.ie/GalwayCC/searchtypes>
- National Biodiversity Action Plan 2017-2021
<https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf>;
- Site surveys, undertaken September 2020

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