Proposed Remedial Action Plan

Dungloe Landfill Site, Dungloe, Co. Donegal

Supporting Information for Stage 1 Screening Appraisal for Appropriate Assessment

IBR1337
AA Screening
F01
August 2024

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
D01	Draft	AS	MM	MM	31/07/2024
F01	Final version	AS	MM	MM	28/08/2024

Approval for issue

Mark Magee		28 August 2024

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1. INTRODUCTION

1.1 Purpose of this Report

This report has been prepared by RPS on behalf of Donegal County Council and examines whether or not proposed remediation works at Dungloe Landfill Site, located 1.75km north of Dungloe village, Co. Donegal is likely to have a significant effect on any European site.

RPS has prepared the report, on behalf of Donegal County Council, in support of an application for a Certificate of Authorisation in accordance with Regulation 7(1) of the Waste Management (Certification of Historic Unlicenced Waste Disposal and Recovery Activity) Regulations, 2008. The EPA, as the competent authority, shall be furnished with this report in support of the application for a certificate of authorisation for the Dungloe Landfill and the proposed remediation plan.

1.1.1 The Habitats Directive

With the introduction of the Habitats Directive came the obligation to establish the Natura 2000 network of Sites of Community Interest ("SCIs"), comprising a network of areas of highest biodiversity importance for rare and threatened habitats and species across the European Union ("EU").

The Natura 2000 network of sites comprises Special Areas of Conservation (SACs, including candidate SACs) designated under legislation transposing the obligations under Directive 92/43/EEC, and Special Protection Areas (SPAs, including proposed SPAs) classified under the Birds Directive (Directive 2009/147/EC on the conservation of wild birds) and designated under Irish legislation. SACs and SPAs make up the pan-European network of Natura 2000 sites in Ireland and they are referred to as European sites.

SACs are designated for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are designated for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is designated correspond to the Qualifying Interests (QIs) of the sites in the case of SACs and Special Conservation Interests (SCIs) of the sites in the case of SPAs. From these qualifying features, the Conservation Objectives (COs) of the site are derived.

Article 6(3) of the Habitats Directive requires that–

> *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a 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."*

1.1.2 Screening for Appropriate Assessment

Under Regulation 42 of the European Communities (Birds And Natural Habitats) Regulations 2011, as amended, a screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

Under Regulation 42(6) the public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

Conversely, under Regulation 42(7), the public authority shall determine that an Appropriate Assessment of a plan or project is not required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it can be excluded on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site.

Thus, screening for appropriate assessment is required to determine if the remediation plan for Dungloe Historical Landfill is likely to have a significant effect on a European site by considering whether such a significant effect can or cannot be excluded.

Thus, Article 6(3) provides a two-stage process:

- The first stage involves a screening for Appropriate Assessment (AA); and
- The second stage arises where, having screened the proposed development, the competent authority determines that an appropriate assessment is required, in which case it must then carry out that appropriate assessment.

According to European Commission guidance documents 'Assessment of plans and projects significantly affecting Natura 2000 sites' (EC, 2001) and the 'Managing Natura 2000 sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC' (EC, 2019), the obligations arising under Article 6 establish a step-wise procedure for Habitats Regulations Appraisal as follows, and as illustrated in Box 1.

The first part of this procedure consists of a pre-assessment stage ('screening') to determine whether, firstly, a plan or project is directly connected with or necessary to the management of the site, and secondly, whether it is likely to have a significant effect on the site; it is governed by the first sentence of Article 6(3).

The second part of the procedure, governed by the second sentence of Article 6(3), relates to the appropriate assessment and the decision of the competent national authorities.

A third part of the procedure (governed by Article 6(4) comes into play if, despite a negative assessment, it is proposed not to reject a plan or project but to give it further consideration. In this case Article 6(4) allows for derogations from Article 6(3) under certain conditions.

The extent to which the sequential steps of Article 6(3) apply to a given plan or project depends on several factors, and in the sequence of steps, each step is influenced by the previous step. The order in which the steps are followed is therefore essential for the correct application of Article 6(3).

Each step determines whether a further step in the process is required. If, for example, the conclusion at the end of a Stage 1 screening appraisal is that significant effects on European sites can be excluded, there is no requirement to proceed to the next step.

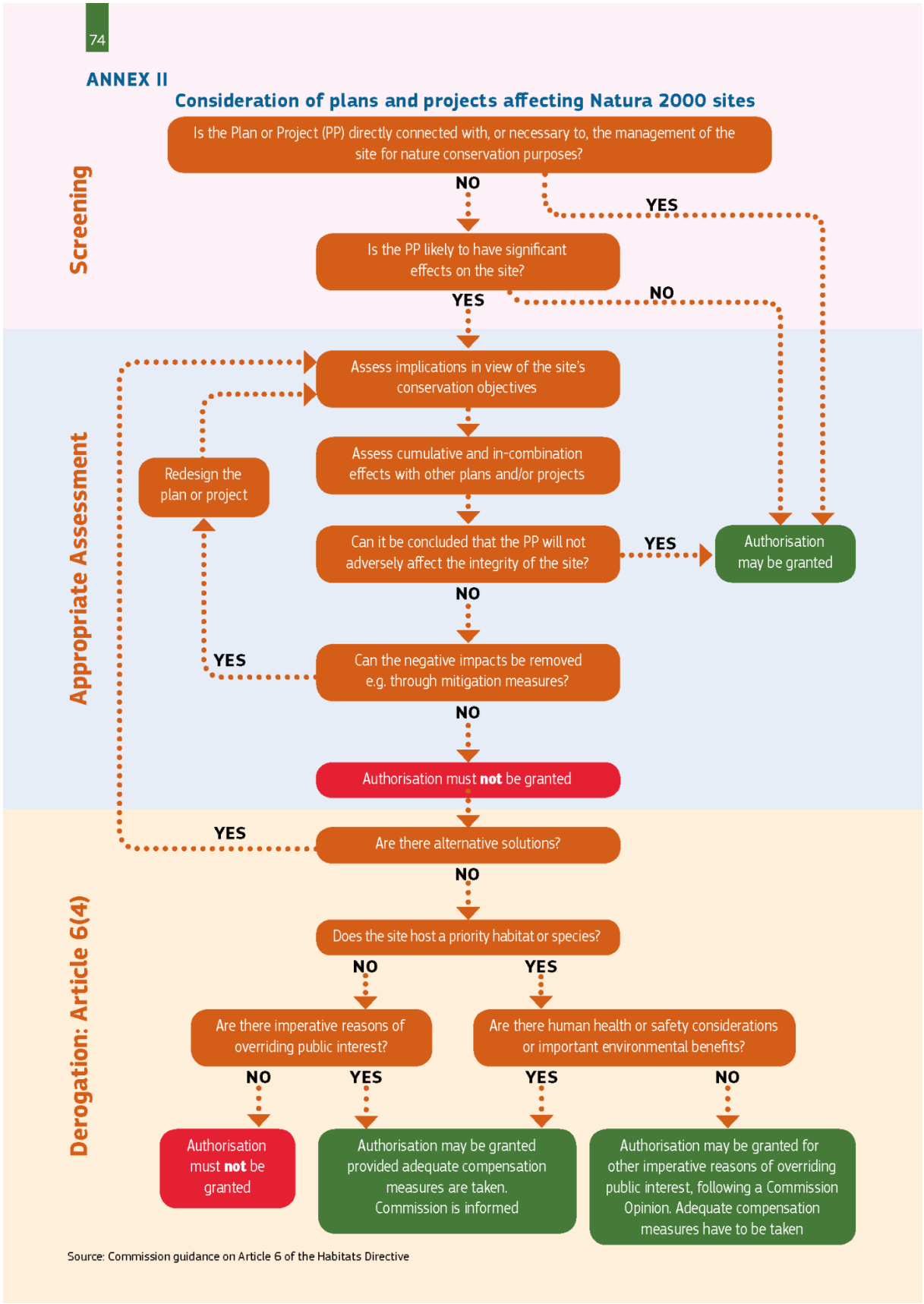

Figure 1-1: Step-wise procedure of Article 6 of the Habitats Directive

1.2 Document Structure

This report is structured as follows:

- **Section 2: Methodology and Guidance** - This section sets out the methodology followed, and guidance documents used in conducting a Stage 1 screening appraisal of the implications of the proposed development on European sites;

- **Section 3: The Proposed Development** - This section describes the Proposed Development, and is the basis of the subsequent Stage 1 screening appraisal that follows; and

- **Section 4: Stage 1 Screening Appraisal** - This section contains a preliminary examination and analysis to understand whether or not the Proposed Development is likely to have a significant effect on any European site.

This is the Stage 1 screening appraisal. It has been undertaken in view of best scientific knowledge, in light of the Conservation Objectives of the sites concerned and considers the Proposed Development individually and in combination with other plans and projects. Measures intended to avoid or reduce the harmful effects of the proposed development on European sites (i.e. “mitigation measures”) or best practice measures have not been taken into account in the screening stage appraisal and should not be taken into account by the competent authority in conducting its screening exercise.

2. APPROPRIATE ASSSESSMENT METHODOLOGY

2.1 Guidance Documents

Appropriate Assessment Guidelines for Planning Authorities have been published by the Department of the Environment, Heritage and Local Government (DEHLG, 2010a) and more recently by the Office of the Planning Regulator Practice Note (PN01) (OPR, 2021). In addition to the advice available from the Department, the European Commission has published a number of documents which provide a significant body of guidance on the requirements of Appropriate Assessment, most notably including, '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' (EC, 2001), which sets out the principles of how to approach decision making during the process.

These principal national and European guidelines have been followed in the preparation of this report. The following list identifies these and other pertinent guidance documents:

Communication from the Commission on the Precautionary Principle, Office for Official Publications of the European Communities, Luxembourg (EC, 2000);

- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001);
- Estuaries and Coastal Zones within the Context of the Birds and Habitats Directives - Technical Supporting Document on their Dual Roles as Natura 2000 Sites and as Waterways and Locations for Ports. European Commission (EC, 2009);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a);
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities (DEHLG, 2010b);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013a);
- Guidelines on Climate Change and Natura 2000. European Commission (EC, 2013b);
- European Commission Notice C(2018) 7621 'Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC, 2019);
- Institute of Air Quality Management 'A guide to the assessment of air quality impacts on designated nature conservation sites (Version 1.1)' (IAQM, 2020);
- Office of the Planning Regulator Practice Note (PN01) 'Appropriate Assessment Screening for Development Management' (OPR, 2021); and
- European Commission Notice C(2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC, 2021).

EC (2000) notes that the implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty, and also that decisions taken based on the precautionary principle should be maintained so long as scientific information is incomplete or inconclusive. EC (2001) notes also that predicting the response of a receptor to a disturbance effect can be difficult and, in the absence of firm scientific information, requires a precautionary approach.

2.2 Likely Significant Effects

The Commission's 2018 Notice (EC, 2019) advises that the appropriate assessment procedure under Article 6(3) is triggered not by the certainty but by the likelihood of significant effects, arising from plans or projects regardless of their location inside or outside a protected site. Such likelihood exists if significant effects on the site cannot be excluded. The significance of effects should be determined in relation to the specific features and environmental conditions of the site concerned by the plan or project, taking particular account of the site's conservation objectives and ecological characteristics.

The threshold for a Likely Significant Effect ("LSE") is treated in the screening exercise as being above a *de minimis* level. A *de minimis* effect is a level of risk that is too small to be concerned with when considering ecological requirements of an Annex I habitat or a population of Annex II species present on a European site necessary to ensure their favourable conservation condition. If low level effects on habitats or individuals of species are judged to be in this order of magnitude and that judgment has been made in the absence of reasonable scientific doubt, then those effects are not considered to be LSEs.

- The analysis involved in a Stage 1 screening appraisal for Appropriate Assessment is described in EC (2021) as comprising four steps:
- ascertaining whether the plan or project is directly connected with or necessary to the management of a Natura 2000 site;
- identifying the relevant elements of the plan or project and their likely impacts;
- identifying which (if any) Natura 2000 sites may be affected, considering the potential effects of the plan or project alone or in combination with other plans or projects;
- assessing whether likely significant effects on the Natura 2000 site can be ruled out, in view of the site's conservation objectives. Case law of the Court of Justice of the European Union (CJEU) has confirmed that a significant effect is triggered when:
- there is a probability or a risk of a plan or project having a significant effect on a European site;
- the plan is likely to undermine the site's conservation objectives; and
- a significant effect cannot be excluded on the basis of objective information.

EC (2021) defines an LSE as being *"any effect that may reasonably be predicted as a consequence of a plan or project that would negatively and significantly affect the conservation objectives established for the habitats and species significantly present on the Natura 2000 site. This can result from either onsite or off-site activities, or through combinations with other plans or projects".*

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 Mitigation Measures

In determining whether or not likely significant effects will occur or can be excluded in the Stage 1 appraisal, measures intended to avoid or reduce the harmful effects of the proposed development on European sites, (i.e. "mitigation measures") or best practice measures have not been taken into account in this screening stage appraisal. This approach is consistent with up-to-date EU guidance (EC, 2019; EC, 2021) and the case law of the CJEU:

EC (2001) states that *"project and plan proponents are often encouraged to design mitigation measures into their proposals at the outset. However, it is important to recognise that the screening assessment should be carried out in the absence of any consideration of mitigation measures that form part of a project or plan and are designed to avoid or reduce the impact of a project or plan on a Natura 2000 site"*. This direction in the

European Commission's guidance document is unambiguous in that it does not permit the inclusion of mitigation at screening stage.

In April 2018, the Court of Justice of the European Union issued a ruling in case C-323/17 People Over Wind & Peter Sweetman v Coillte Teoranta ("People Over Wind") that Article 6(3) of Directive 92/43/EEC must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site. The judgment in People Over Wind is further reinforced in EC (2019) and EC (2021) which refers to CJEU Case C-323/17.

Best management measures are typical and environmentally responsible approaches that the employer will require their successful contractor to apply to the execution of any construction contract awarded by the employer. These measures have not been specified because the Proposed Development is upstream of the European sites - on the contrary they are specified because that is the standard that the employer requires as part its contract with the successful contractor. They are measures that the employer will demand of its contractors carrying out construction activities on its behalf in all circumstances, and as such has included them in the specification for the works. Their use is not triggered by the downstream presence of European sites.

For the avoidance of any doubt however, these best practice measures are not relied on in this stage 1 screening appraisal for appropriate assessment to avoid any possibility whatsoever that they could be construed as being "measures intended to avoid or reduce the harmful effects of the plan or project" on a European site and which have been applied to the screening for appropriate assessment of this project, as such an approach is inconsistent with law as confirmed by the Court of Justice of the European Union (CJEU) in Case C-323/17.

2.4 Consideration of *Ex-Situ Effects*

EC (2019) advises that Member States, both in their legislation and in their practice, allow for the Article 6(3) safeguards to be applied to any development pressures, including those which are external to European sites but which are likely to have significant effects on any of them.

The CJEU developed this point when it issued a ruling in case C-461/17 ("Brian Holohan and Others v An Bord Pleanála") that determined inter alia that Article 6(3) of Directive 92/43/EEC must be interpreted as meaning that an appropriate assessment must on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.

In that regard, consideration has been given in this Habitats Directive appraisal to implications for habitats and species located both inside and outside of the European sites considered in the screening appraisal with reference to those sites' Conservation Objectives where effects upon those habitats and/or species are liable to affect the conservation objectives of the sites concerned.

2.5 In-Combination Effects

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in the Commission's 2018 Notice (EC, 2019), significance will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned. Whilst the Directive does not explicitly define which other plans and projects are within the scope of the in-combination provision of Article 6(3), it is important to note that the underlying intention of this provision is to take account of cumulative impacts, and these will often only occur over time.

In that context, one can consider plans or projects which are completed, approved but uncompleted, or proposed. EC (2019) specifically advises that *"as regards other proposed plans or projects, on grounds of*

legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced".

EC (2021) additionally advises that –

- an in-combination assessment is often less detailed at the screening stage than in the appropriate assessment;
- there is still a need to identify all other plans or projects that could give rise to cumulative impacts with the plan or project in question and
- if this analysis cannot reach definitive conclusions, it should at least identify any other relevant plans and projects that should be scrutinised in more detail during the appropriate assessment.

3. THE PROJECT

3.1 Project Description

The application proposes the development of remediation works at a historic landfill site in the care of Donegal County Council known as Dungloe Historic Landfill Site (Figure 3-1). Landfilling operations were undertaken by Donegal County Council on a site located 1.75 km north of Dungloe village, Co. Donegal. The activities involved the partial infilling of Lough Nacree with municipal waste understood to have occurred between 1980 and 1999. The site currently comprises Lough Nacree, the waste body, a pond/wetland fed by the waste body, leachate overflow tanks which partially contain the leachate within the pond/wetland and facilitate overflow into the tanks before the leachate is pumped to a Puraflo leachate treatment system located at the northern boundary of the waste body. The Puraflo discharges to a land drain that subsequently connects to the Glais Bheagáin stream. The holding tanks and Puraflo system were installed in 1995.

Figure 3-1: Site Location

The proposed remediation works as outlined in **Figure 3-2** include;

- The predominant source of water entering the waste body originates from Lough Nacree upstream of the site. The existing formal outfall from the lake directs discharges to a pond/wetland system within the site, unnecessarily increasing the volumes of water being managed by the onsite leachate treatment plant. Site monitoring indicate that subsurface flows from the lake also contribute large volumes of water to the waste body to generate leachate. Drainage will be installed to facilitate diversion of observed flows from Lough Nacree to the leachate holding structure and reduce water levels within Lough Nacree to ultimately facilitate a return to their natural/historic levels which will reduce the volume of water entering the waste body and generating leachate. This diversion will be installed by Horizontal Directional Drilling (HDD)

given the ground conditions at the site. This construction method will reduce the excavations required at the site;

- A number of drainage channels and ditches are present on the western boundary of the site which currently direct flows from Lough Nacree and overland flows from the peat bog to the west of the site to the existing pond/wetland onsite. To prevent contributions of surface water from the peatlands to the west of the site to leachate within the site it is proposed to install an interception filter drain around the western perimeter of the site to direct surface water flows from this boundary to an outfall downstream of the leachate holding tanks;
- Undertake measures to seal leakages from the vicinity of the leachate holding tanks in conjunction with measures proposed above to reduce contributions to the leachate holding tanks by discharges from Lough Nacree;
- Regular maintenance and monitoring of the leachate treatment system to ensure the quality of discharge remains at a suitable standard to minimise any impacts on downstream surface water receptors;
    - Continued long term monitoring of groundwater, surface water (upstream and downstream), leachate and landfill gas.

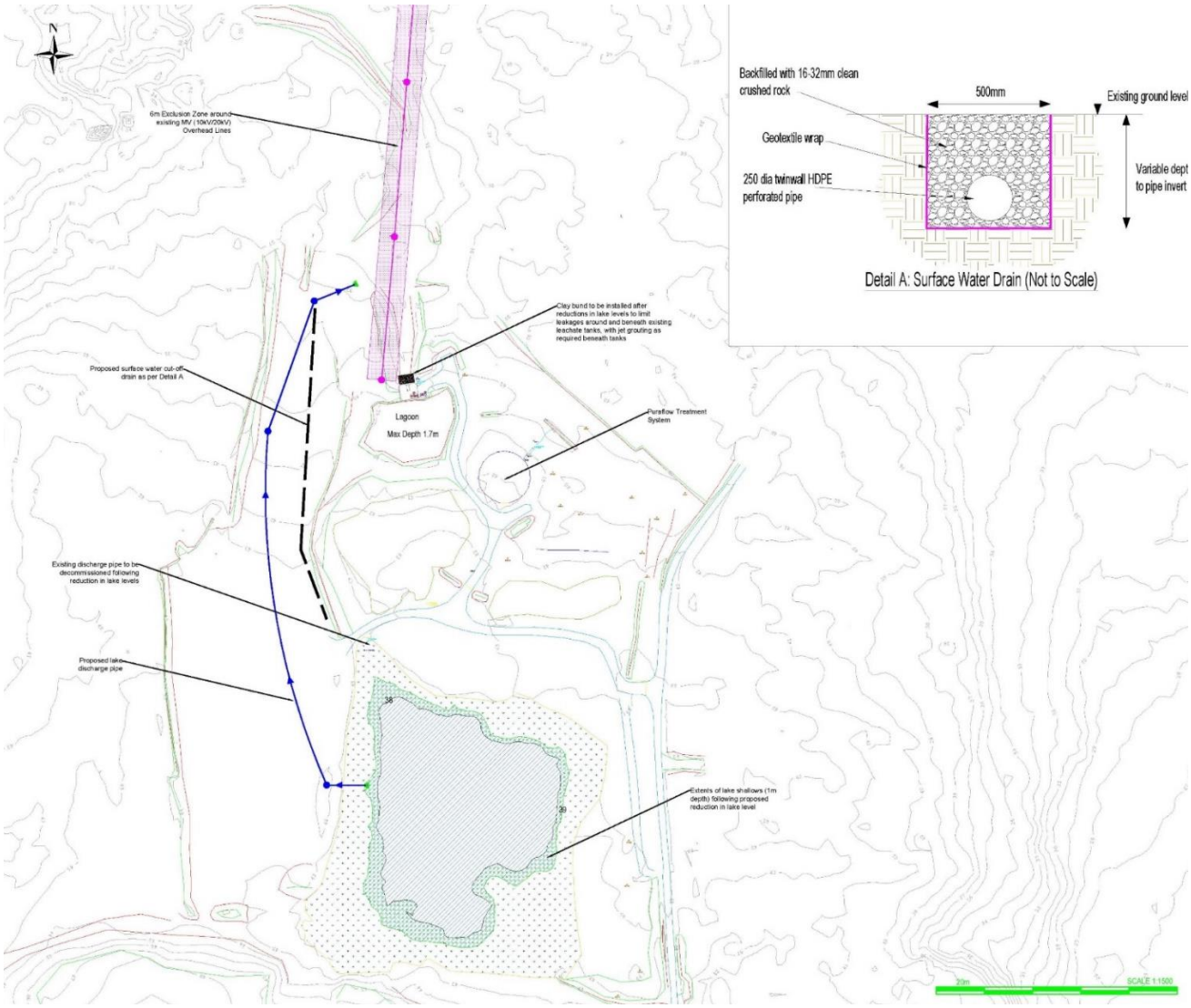

Figure 3-2: Remediation Plan

4. STAGE 1 SCREENING APPRAISAL FOR APPROPRIATE ASSESSMENT

4.1 Directly Connected with or Necessary to the Management to the Management of the Site

The proposed project involves remediation works in a historical landfill site. Refer to Section 3 for further details. On this basis, the project is not directly connected with or necessary to the management of any site as a European Site. As such, it will be subject to the assessment procedure under Article 6(3) of the Habitats Directive.

4.2 European Sites

This screening exercise considers European sites designated under the Habitats Directive and the Birds Directive 2009/147/EC. The proposed project must be screened against those European sites for which a pathway of effect can be reasonably established between a receptor and the source of an effect.

The site of the proposed project is not located within the boundary of any European site. A total of 14 European Sites and one Ramsar site were identified within 15km radius of the proposed project.

Table 4.1 below provides descriptive details of designated sites and features of natural heritage importance located within proximity to the site of the proposed project; or connected to it through an identifiable impact pathway. The boundary of each of these designated sites in relation to the proposed project is illustrated in **Figure 4-1**.

Other sites listed below within Table 4.1 are located within 15km of proposed project, but not connected to it by a hydrological or hydrogeological pathway.

4.3 Establishing an Impact Pathway

The possibility of significant effects is considered in this report using the source-pathway-receptor model, where:

- **'Source'** is defined as the individual elements of the proposed project that have the potential to affect the identified ecological feature (or receptor).
- **'Pathway'** is defined as the means or route by which a source can affect the ecological feature.
- **'Receptor'** or ecological feature is defined as qualifying features the SPA or SAC for which conservation objectives have been set for the European sites under consideration (refer to Table 4-1).

Each element can exist independently however an effect is created when there is a linkage between source, pathway and receptor. The principle identified pathways of effect upon European sites arise as a result of aspects of the proposed project which have the potential to lead to:

- Deterioration of water quality in the marine environment is via the hydrological connections to downstream sites; and
- Disturbance as a result of noise generated at construction phase of the proposed project.

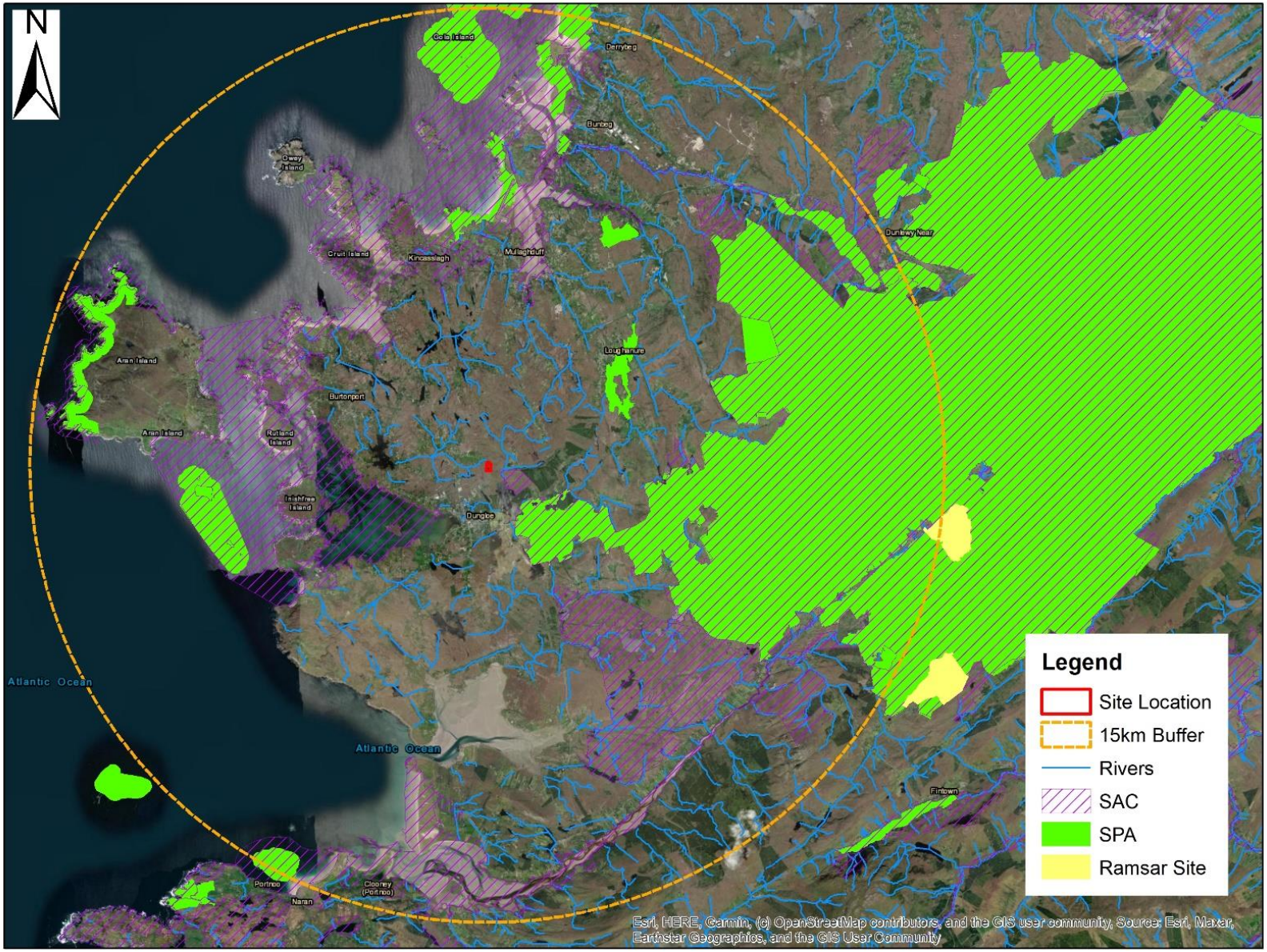

Figure 4-1: SACs and SPAs within a 15km distance of Dungloe landfill site.

Table 4-1: European Sites and their Qualifying Interests or Special Conservation Interests

**Denotes a Priority Habitat under the Habitats Directive.*

European Site	Distance and direction from project	Selection feature	Conservation Objectives
Fawnboy Bog/Lough Nacung SAC [SAC 000140]	12.7 km NE straight line distance. **No hydrological connection.**	• Northern Atlantic wet heaths with *Erica tetralix* [4010] • Blanket bogs (* if active bog) [7130] • Depressions on peat substrates of the Rhynchosporion [7150] • *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]	• To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix in Fawnboy Bog/Lough Nacung SAC, which is defined by 20 attributes and targets. • To restore the favourable conservation condition of Blanket bogs in Fawnboy Bog/Lough Nacung SAC, which is defined 19 attributes and targets. • To restore the favourable conservation condition of Depressions on peat substrates of the Rhynchosporion in Fawnboy Bog/Lough Nacung SAC, which is defined by 16 attributes and targets. • To restore the favourable conservation condition of Freshwater Pearl Mussel in Fawnboy Bog/Lough Nacung SAC, which is defined by 13 attributes and targets.
Gannivegil Bog SAC [SAC 000142]	4.3 km SE straight line distance. **No Hydrological link.**	• Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] • Northern Atlantic wet heaths with *Erica tetralix* [4010] • Blanket bogs (* if active bog) [7130]	• To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in Gannivegil Bog SAC, which is defined by 18 attributes and targets. • To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix in Gannivegil Bog SAC, which is defined by 20 attributes and targets. • To restore the favourable conservation condition of Blanket bogs (* if active bog) in Gannivegil Bog SAC, which is defined by 19attributes and targets.
Coolvoy Bog SAC [SAC 001107]	12 km SE straight line distance. **No hydrological connection.**	• Blanket bogs (* if active bog) [7130]	• To restore the favourable conservation condition of Blanket bogs (* if active bog) in Coolvoy Bog SAC, which is defined by 19 attributes and targets.
Gweedore Bay And Islands SAC [SAC 001141]	5.1 km NW straight line distance. **No hydrological link.**	• Coastal lagoons [1150] • Reefs [1170] • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	• To restore the favourable conservation condition of Coastal lagoons in Gweedore Bay and Islands SAC, which is defined by 12 attributes and targets. • To maintain the favourable conservation condition of Reefs in Gweedore Bay and Islands SAC, which is defined by 3 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
		• Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Decalcified fixed dunes with *Empetrum nigrum* [2140] • Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150] • Dunes with Salix repens ssp. argentea (*Salicion arenariae*) [2170] • Humid dune slacks [2190] • Machairs (* in Ireland) [21A0] • Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • *Juniperus communis* formations on heaths or calcareous grasslands [5130] • *Euphydryas aurinia* (Marsh Fritillary) [1065] • *Phocoena phocoena* (Harbour Porpoise) [1351] • *Lutra lutra* (Otter) [1355] • *Petalophyllum ralfsii* (Petalwort) [1395] • *Najas flexilis* (Slender Naiad) [1833]	• To maintain the favourable conservation condition of Perennial vegetation of stony banks in Gweedore Bay and Islands SAC, which is defined by 6 attributes and targets. • To maintain the favourable conservation condition of Mediterranean salt meadows (Juncetalia maritimi) in Gweedore Bay and Islands SAC, which is defined by 10 attributes and targets. • To maintain the favourable conservation condition of Embryonic shifting dunes in Gweedore Bay and Islands SAC, which is defined by 7 attributes and targets. • To maintain the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') in Gweedore Bay and Islands SAC, which is defined by 7 attributes and targets. • To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Gweedore Bay and Islands SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Decalcified fixed dunes with Empetrum nigrum in Gweedore Bay and Islands SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Dunes with Salix repens ssp. argentea (Salicion arenariae) in Gweedore Bay and Islands SAC, which is defined by the 11 attributes and targets. • To maintain the favourable conservation condition of Humid dune slacks in Gweedore Bay and Islands SAC, which is defined 11 attributes and targets. • To restore the favourable conservation condition of Machairs in Gweedore Bay and Islands SAC, which is defined by 10 attributes and targets. • To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in Gweedore Bay and Islands SAC, which is defined by 18 attributes and targets. • To maintain the favourable conservation condition of European dry heaths in Gweedore Bay and Islands SAC, which is defined by 17 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
			• To maintain the favourable conservation condition of Alpine and Boreal heaths in Gweedore Bay and Islands SAC, which is defined by 12 attributes and targets. • To restore the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands in Gweedore Bay and Islands SAC, which is defined by 8 attributes and targets. • To maintain the favourable conservation condition of Otter in Gweedore Bay and Islands SAC, which is defined by 8 attributes and targets. • To maintain the favourable conservation condition of Petalwort in Gweedore Bay and Islands SAC, which is defined by 5 attributes and targets. • To maintain the favourable conservation condition of Slender Naiad in Gweedore Bay and Islands SAC, which is defined by 13 attributes and targets.
Cloghernagore Bog and Glenveagh National Park SAC [SAC 002047]	1 km E straight line distance. **No hydrological connection.**	• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] • Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] • Northern Atlantic wet heaths with Erica tetralix [4010] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] • Blanket bogs (* if active bog) [7130] • Depressions on peat substrates of the Rhynchosporion [7150] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355]	• To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 18 attributes and targets. • To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 9 attributes and targets. • To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 20 attributes and targets. • To restore the favourable conservation condition of European dry heaths in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 19 attributes and targets. • To restore the favourable conservation condition of Alpine and Boreal heaths in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 14 attributes and targets. • To maintain the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion

European Site	Distance and direction from project	Selection feature	Conservation Objectives
		• Trichomanes speciosum (Killarney Fern) [1421]	caeruleae) in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 13 attributes and targets. • To restore the favourable conservation condition of Blanket bogs (* if active bog) in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 19 attributes and targets. • To restore the favourable conservation condition of Depressions on peat substrates of the Rhynchosporion in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 16 attributes and targets. • To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnumin the British Isles in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 12 attributes and targets. • To restore the favourable conservation condition of Freshwater Pearl Mussel in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 16 attributes and targets. • To maintain the favourable conservation condition of Atlantic Salmon in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 6 attributes and targets. • To maintain the favourable conservation condition of Otter in Cloghernagore Bog and Glenveagh National Park SAC, which is defined by 7 attributes and targets. • To maintain the favourable conservation condition of Killarney Fern in Cloghernagore Bog and Glenveagh National Park SAC, which is defined 16 attributes and targets.
Rutland Island and Sound SAC [SAC 002282]	4.2 km W straight line distance. 4.9 km by closest hydrological connection.	• Coastal lagoons [1150] • Large shallow inlets and bays [1160] • Reefs [1170] • Annual vegetation of drift lines [1210] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Phoca vitulina (Harbour Seal) [1365]	• To maintain the favourable conservation condition of Reefs in Rutland Island and Sound SAC, which is defined by 3 attributes and targets. • To maintain the favourable conservation condition of Annual vegetation of drift lines in Rutland Island and Sound SAC, which is defined by 6 attributes and targets. • To maintain the favourable conservation condition of Embryonic shifting dunes in Rutland Island and Sound SAC, which is defined by 7 attributes and targets. • To maintain the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') in Rutland Island and Sound SAC, which is defined 7 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
			• To maintain the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Rutland Island and Sound SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Humid dune slacks in Rutland Island and Sound SAC, which is defined by 11 attributes and targets. • To maintain the favourable conservation condition of Harbour Seal in Rutland Island and Sound SAC, which is defined 5 attributes and targets.
Aran Island (Donegal) Cliffs SAC [SAC 000111]	13.3 km NW straight line distance. **No hydrological link.**	• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • Calcareous rocky slopes with chasmophytic vegetation [8210] • Siliceous rocky slopes with chasmophytic vegetation [8220] • Submerged or partially submerged sea caves [8330]	• To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in Aran Island (Donegal) Cliffs SAC, which is defined by 8 attributes and targets. • To restore the favourable conservation condition of European dry heaths in Aran Island (Donegal) Cliffs SAC, which is defined by 19 attributes and targets. • To maintain the favourable conservation condition of Alpine and Boreal heaths in Aran Island (Donegal) Cliffs SAC, which is defined by 14 attributes and targets. • To maintain the favourable conservation condition of Calcareous rocky slopes with chasmophytic vegetation in Aran Island (Donegal) Cliffs SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Siliceous rocky slopes with chasmophytic vegetation in Aran Island (Donegal) Cliffs SAC, which is defined by 8 attributes and targets. • To maintain the favourable conservation condition of Submerged or partially submerged sea caves in Aran Island (Donegal) Cliffs SAC, which is defined by 3 attributes and targets.
Termon Strand SAC [SAC 001195]	6.4 km SW straight line distance. **No hydrological connection.**	• Coastal lagoons [1150]	• To maintain the favourable conservation condition of Coastal lagoons in Termon Strand SAC, which is defined by 12 attributes and targets.
West Of Ardara/Maas Road SAC [SAC 000197]	10.2 km SW straight line distance. **No hydrological connection.**	• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Large shallow inlets and bays [1160]	• To maintain the favourable conservation condition of Estuaries in West of Ardara/Maas Road SAC, which is defined by 2 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
		• Annual vegetation of drift lines [1210] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Decalcified fixed dunes with Empetrum nigrum [2140] • Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150] • Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170] • Humid dune slacks [2190] • Machairs (* in Ireland) [21A0] • Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] • Northern Atlantic wet heaths with Erica tetralix [4010] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • Juniperus communis formations on heaths or calcareous grasslands [5130] • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]	• To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in West of Ardara/Maas Road SAC, which is defined by 2 attributes and targets. • To maintain the favourable conservation condition of Large shallow inlets and bays in West of Ardara/Maas Road SAC, which is defined by 2 attributes and targets. • To restore the favourable conservation condition of Atlantic salt meadows (Glauco-Puccinellietalia maritimae) in West of Ardara/Maas Road SAC, which is defined by 10 attributes and targets. • To maintain the favourable conservation condition of Mediterranean salt meadows (Juncetalia maritimi) in West of Ardara/Maas Road SAC, which is defined by 10 attributes and targets. • To maintain the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') in West of Ardara/Maas Road SAC, which is defined by 7 attributes and targets. • To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in West of Ardara/Maas Road SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Decalcified fixed dunes with Empetrum nigrum in West of Ardara/Maas Road SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Atlantic decalcified fixed dunes (Calluno-Ulicetea) in West of Ardara/Maas Road SAC, which is defined by 9 attributes and targets. • To maintain the favourable conservation condition of Dunes with Salix repens ssp. argentea (Salicion arenariae) in West of Ardara/Maas Road SAC, which is defined by 10 attributes and targets. • To maintain the favourable conservation condition of Humid dune slacks in West of Ardara/Maas Road SAC, which is defined by 11 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
		• Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510] • Blanket bogs (* if active bog) [7130] • Depressions on peat substrates of the Rhynchosporion [7150] • Alkaline fens [7230] • Vertigo geyeri (Geyer's Whorl Snail) [1013] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Euphydryas aurinia (Marsh Fritillary) [1065] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355] • Phoca vitulina (Harbour Seal) [1365] • Petalophyllum ralfsii (Petalwort) [1395] • Najas flexilis (Slender Naiad) [1833]	• To restore the favourable conservation condition of Machairs in West of Ardara/Maas Road SAC, which is defined by 11 attributes and targets. • To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in West of Ardara/Maas Road SAC, which is defined by 18 attributes and targets. • To restore the favourable conservation condition of Northern Atlantic wet heaths with Erica tetralix in West of Ardara/Maas Road SAC, which is defined by 20 attributes and targets. • To restore the favourable conservation condition of European dry heaths in West of Ardara/Maas Road SAC, which is defined by 19 attributes and targets. • To restore the favourable conservation condition of Alpine and Boreal heaths in West of Ardara/Maas Road SAC, which is defined by 14 attributes and targets. • To maintain the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands in West of Ardara/Maas Road SAC, which is defined by 8 attributes and targets. • To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) in West of Ardara/Maas Road SAC, which defined by 11 attributes and targets. • To maintain the favourable conservation condition of Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) in West of Ardara/Maas Road SAC, which is defined by 11 attributes and targets. • To restore the favourable conservation condition of Blanket bogs in West of Ardara/Maas Road SAC, which is defined by 19 attributes and targets. • To maintain the favourable conservation condition of Depressions on peat substrates of the Rhynchosporion in West of Ardara/Maas Road SAC, which is defined by 16 attributes and targets. • To maintain the favourable conservation condition of Alkaline fens in West of Ardara/Maas Road SAC, which is defined by 9 attributes and targets.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
			• To maintain the favourable conservation condition of Geyer's Whorl Snail in West of Ardara/Maas Road SAC, which is defined by 5 attributes and targets. • To restore the favourable conservation condition of Freshwater Pearl Mussel in West of Ardara/Maas Road SAC, which is defined 12 attributes and targets. • To maintain the favourable conservation condition of Marsh Fritillary in West of Ardara/Maas Road SAC, which is defined by 4 attributes and targets. • To maintain the favourable conservation condition of Atlantic Salmon in West of Ardara/Maas Road SAC, which is defined by 6 attributes and targets. • To maintain the favourable conservation condition of Otter in West of Ardara/Maas Road SAC, which is defined by 8 attributes and targets. • To maintain the favourable conservation condition of Harbour Seal in West of Ardara/Maas Road SAC, which is defined by 5 attributes and targets. • To maintain the favourable conservation condition of Petalwort in West of Ardara/Maas Road SAC, which is defined by 5 attributes and targets. • To maintain the favourable conservation condition of Slender Naiad in West of Ardara/Maas Road SAC, which is defined by 13 attributes and targets.
Derryveagh And Glendowan Mountains SPA [SPA 004039]	2.2 km SE straight line distance. **No hydrological connection.**	• Red-throated Diver (Gavia stellata) [A001] • Merlin (Falco columbarius) [A098] • Peregrine (Falco peregrinus) [A103] • Golden Plover (Pluvialis apricaria) [A140] • Dunlin (Calidris alpina schinzii) [A466]	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
Inishkeel SPA [SPA 004116]	14.2 km SW straight line distance. **No hydrological connection.**	• Barnacle Goose (Branta leucopsis) [A045]	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
Illancrone and Inishkeeragh SPA [SPA 004132]	8.4 km SW straight line distance. 9.4 km by closest hydrological connection.	• Barnacle Goose (Branta leucopsis) [A045] • Common Tern (Sterna hirundo) [A193] • Arctic Tern (Sterna paradisaea) [A194] • Little Tern (Sterna albifrons) [A195]	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

European Site	Distance and direction from project	Selection feature	Conservation Objectives
West Donegal Coast SPA [SPA 004150]	13.4 km NW straight line distance and 8 km N straight line distance. **No hydrological connection.**	• Fulmar (Fulmarus glacialis) [A009] • Cormorant (Phalacrocorax carbo) [A017] • Shag (Phalacrocorax aristotelis) [A018] • Peregrine (Falco peregrinus) [A103] • Herring Gull (Larus argentatus) [A184] • Kittiwake (Rissa tridactyla) [A188] • Razorbill (Alca torda) [A200] • Chough (Pyrrhocorax pyrrhocorax) [A346]	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
West Donegal Islands SPA [SPA 004230]	12 km N straight line distance. **No hydrological connection.**	• Shag (Phalacrocorax aristotelis) [A018] • Barnacle Goose (Branta leucopsis) [A045] • Corncrake (Crex crex) [A122] • Common Gull (Larus canus) [A182] • Herring Gull (Larus argentatus) [A184]	• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.
Lough Barra Bog Ramsar Site Site no: 373	14.7 km SE straight line distance. **No hydrological connection.**	• Lough Barra Bog. 01-06-1987; Donegal; 176 ha; 54°56'N 08°06'W The site is adjacent to the Meenachullion Bog (Ramsar Site no:475), part of the most extensive and intact area of lowland blanket bog in north west Ireland. It includes numerous small pool complexes, heath, grassland, river and lake habitats. It is an important breeding ground for the golden plover (Pluvialis apricaria) and for foraging merlin (Falco columbarius). The European otter (Lutra lutra) is also found. The bog is important for carbon storage, regulation of stream flow and water quality. The invasive Rhododendron ponticum is a threat to the Site, which is monitored by the National Parks and Wildlife Service Conservation Rangers.	

4.3.1 Water Quality and Habitat Deterioration

The main outlet of the site northwards from the leachate lagoon and onwards into the Glais Bheagáin stream which flows in a north, northwestern direction before discharging into Lough Meela. Lough Meela then discharges into the Rutland Island and Sound SAC 4.9 km downstream of the landfill site where further offshore the Illancrone and Inishkeeragh SPA is 9.4 km downstream of the site. Although Cloghernagore Bog and Glenveagh National Park SAC and the Derryveagh and Glendowan Mountains SPA are geographically closer, their hydrological links have been ruled out by desk, topographical and on-site walk-over surveys (see appendix C of the Tier 2 Risk Assessment report).

Remote sites such as Fawnboy Bog/Lough Nacung SAC, Gannivegil Bog SAC, Coolvoy Bog SAC, Gweedore Bay and Islands SAC, Aran Island (Donegal) Cliffs SAC, Termon Strand SAC, West of Ardara/Maas Road SAC, Inishkeel SPA, West Donegal Coast SPA, West Donegal Islands SPA and Lough Barra Bog Ramsar Site, with no hydrological connection to the site of the proposed remediation works are discounted from further consideration. Essentially, they and Cloghernagore Bog and Glenveagh National Park SAC and the Derryveagh and Glendowan Mountains SPA are 'screened out' at this preliminary stage as there is no pathway of potential effect.

Conservation objectives for Rutland Island and Sound SAC list water quality effects as a threat to conservation objectives particularly nutrient pressures for the coastal lagoon at Sally Lough which is located a further 4.5 km north of the outlet of Lough Meela to Dungloe Bay coastal water body and the Rutland Island and Sound SAC. The site is also designated for, large shallow inlets and bays, reefs, annual vegetation of drift lines, embryonic shifting dunes, shifting dunes along the shoreline with ammophila arenaria (white dunes), fixed coastal dunes with herbaceous vegetation (grey dunes), humid dune slacks and Phoca vitulina (Harbour Seal) all of which are considered to be water dependent and nutrient sensitive and are currently at favourable conservation status.

Site specific conservation objectives have not been published for Illancrone and Inishkeeragh SPA. A generic conservation objective was published on 12 October 2022, and that is to maintain or restore the favourable conservation condition of the Barnacle Goose, Common Tern, Arctic Tern and Little Tern. We can take the North-west Irish Sea SPA as an example for site specific conservation objectives for the Common Tern, Arctic Tern and Little Tern. The key conservation objectives that would be affected by water quality include the sufficient number of locations, area, and availability of suitable habitat and foraging biomass to support the population target. Water quality and potential habitat deterioration could impact on this conservation objective in the Illancrone and Inishkeeragh SPA.

Construction Phase

The proposed remediation works include diverting the existing outfall of Lough Nacree to its western shore and improving surface water drainage around the western perimeter of the site. At construction stage, the diversion channel will be installed by Horizontal Directional Drilling (HDD) given the difficult ground conditions encountered at the site. This will reduce the extent of excavation required within the peatland environment and reduce potential for sediment export from the site to the aquatic environment. A small amount of earthworks will be required to improve the surface water drainage on the western shores and prevent overland surface water flows from the peatland to the west of the site from entering the wetland area and earthworks operations will be carried out in order to achieve these objectives. The topography of the site indicates that any surface or ground water will flow towards the Glais Bheagáin stream. There will be no effect to Dungloe Lough which is to the southeast of the site as it has been confirmed through the Phase 3 hydrological study included in Appendix C of the Tier 2 Risk Assessment that there is no hydrological connectivity with this water body.

Rutland Island and Sound SAC and Illancrone and Inishkeeragh SPA are hydrologically linked to the site via the Glais Bheagáin stream with an impact pathway ranging from 4.9 km to 9.4 km in length. The Cloghernagore Bog and Glenveagh National Park SAC and the Derryveagh and Glendowan Mountains SPA are not hydrologically liked given the confirmation that there is no pathway from the site to Dungloe Lough (Phase 3 hydrological study included in Appendix C of the Tier 2 Risk Assessment).

There is potential source(s) of pollution (i.e. construction related sediments or accidental release of hydrocarbons or leachate) via surface runoff discharging into Glais Bheagáin stream.

Given the scale of the works and the method of installation of the diversion from Lough Nacree in particular, i.e. HDD, there is a limited risk from the construction to result in significant effects in the downstream

hydrologically connected European Sites. At construction stage, if a small quantity of pollutant substances were to be washed into the stream over a short period of time, due to the dilution factor of the Glais Bheagáin stream and Lough Meela the substances would likely be diluted to *de minimis* or background levels by the time they reach the nearest designated site (Rutland Island and Sound SAC).

Proposed remediation works will involve the use of plant machinery as well as the limited associated temporary storage of construction materials, oils and fuels. There is potential for accidental spillage or release of fuel, oil and other dangerous substances which could be transferred into receiving waterbodies of the Glais Bheagáin stream located at the northeast corner to the site or into Lough Nacree within the site which was originally thought to have the potential to also drain into Dungloe Lough. This was ruled out following topographical LiDAR and on-site walkover surveys, conducted by RPS, included in Appendix C of the Tier 2 Risk Assessment.

The SAC is the closest designated site downstream of the proposed project and in the absence of mitigation, pollutants relating to the remediation works such as suspended sediments, oil and other contaminants could be washed into the drainage systems/ stream around the site during periods of heavy prolonged rainfall. However, due to the diluting factor of the large waterbody, Lough Meela, substances would be diluted and degraded to *de minimis* levels by the time it would reach Rutland Island and Sound SAC.

On this basis, even in the absence of mitigation measures to prevent construction related pollutants entering the unnamed stream, the potential for likely significant effects on Rutland Island and Sound SAC **can be excluded** at the screening stage of the appraisal.

Conservation objectives for Illancrone and Inishkeeragh SPA do not state pollution or water quality effects as a threat to conservation objectives. At Dungloe historical landfill site, it's likely that any temporary pollution event or increase in suspended sediments entering the stream over 9.4 km upstream of Illancrone and Inishkeeragh SPA will be subject to mixing and dilution as it travels through Lough Meela and into Dungloe Bay. Therefore, temporary siltation or accidental pollution over 9 km upstream from the proposed remediation works will have no effect whatsoever on the population trend or distribution of the waterbird assemblage in Illancrone and Inishkeeragh SPA.

Although, the SPA provides an important foraging area and breeding site for overwintering wildfowl, in the event substantial quantities of polluting substances were to migrate from the site of proposed remediation works during periods of prolonged rainfall, the dilution and mixing of both Lough Meela and Dungloe Bay should be sufficient to prevent negative impacts to the conservation objectives of the site.

The potential for likely significant effects on SPA Illancrone and Inishkeeragh **can be excluded** at the screening stage of the appraisal, even in the absence of mitigation measures.

Operational Phase

The objective of the project is to reduce the volume of leachate generated by the ingress of water into the waste mass at the landfill. The remediation proposed will reduce the leachate volumes to levels that can be managed and treated in the existing Puraflow system, thereby removing the pathway for untreated leachate to the Glais Bheagáin stream and significantly reducing the loading of contaminants, particularly nutrients (ammonia and orthophosphate) to the downstream water dependent qualifying features.

As part of the Tier 3 Risk Assessment undertaken for the Dungloe Historic Landfill a series of monitoring rounds were undertaken in both groundwater and surface water monitoring locations. The sampling of Lough Nacree, the wetlands and outlet from the Puraflow system demonstrated that the water quality in the lake is higher than that discharging to the Glais Bheagáin stream from the leachate holding tanks and the puraflow system. Indeed, the sampling of the lake undertaken in 2023 established that all samples had ammonia levels that were lowered than the Environmental Quality Standard required to support good ecological status. Therefore the diversion of outlet from the lake to allow the gradual reduction of lake level and to reduce the volume of water available to generate leachate in the waste mass will not have a significant impact on the water quality in the Glais Bheagáin stream. Indeed, it will improve the water quality during operation by reducing the volume of leachate to levels that can be treated effectively in the Puraflow system provided it is adequately maintained and operated.

The current conservation status of the qualifying features in the SAC is favourable and therefore the current operational regime at the landfill is not having a significant effect on the conservation objectives. The reduction in loading to the Glais Bheagáin stream will result in an improvement in water quality and therefore ensure that the project does not compromise the conservation objective of the qualifying features in the Rutland Island and Sound SAC which are to maintain the current favourable conservation status.

The operational phase of the development will therefore result in a positive impact on the conservation objectives of the European Sites downstream.

On this basis the potential for likely significant effects from water quality and habitat deterioration during the continued operation of the Puraflow WWTP and the historical landfill at Dungloe on Rutland Island and Sound SAC and the Illancrone and Inishkeeragh SPA **can be excluded** at the screening stage of the appraisal.

4.3.2 Noise and Disturbance

4.3.2.1 Aerial Noise

Construction of the proposed remediation works, will involve the use of plant and machinery when installing new surface water drains and relocation the outfall of Lough Nacree. The noise generated by machinery and plant activities are by analysis, ordinary occurrences in proximity to working agricultural land and landfill sites.

The site of the proposed project is not contained within any European site. Inishkeel SPA, Illancrone and Inishkeeragh SPA, West Donegal Coast SPA, West Donegal Islands SPA, Lough Barra Bog Ramsar Site are all located more than 5km from the site of the proposed works. Derryveagh and Glendowan Mountains SPA is located approximately 2 km from the proposed works. However, the construction activities are by any analysis, ordinary occurrences within a farmland setting on the fringes of a regional town. It is considered that appreciable risks of disturbance to or displacement of feature species populations of any European site are negligible. There is no possibility of a significant effect upon the conservation objectives of any European site designed for waterfowl as a consequence of aerial noise emissions or visible plant and operatives.

On this basis it is considered that the proposed project does not have the potential to give rise to likely significant airborne noise related disturbance effects upon the SPAs considered in this appraisal. Likely significant effects **can be excluded** at the screening stage of appraisal and in the absence of mitigation for:

- Inishkeel SPA
- Illancrone and Inishkeeragh SPA
- West Donegal Coast SPA
- West Donegal Islands SPA
- Lough Barra Bog Ramsar Site SPA
- Derryveagh And Glendowan Mountains SPA

4.4 In-Combination Effects

Article 6(3) of the Habitats Directive requires that in-combination effects with other plans or projects are also considered. As set out in the Commission's 2018 Notice (EC, 2019), significance of effect will vary depending on factors such as magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned. The significance of any identified combined effects of the proposed works alongside other past, present or reasonably foreseeable future plans or projects must be evaluated.

In that context, plans or projects which are completed, approved but uncompleted, or proposed have been considered. EC (2019) specifically advises that "*as regards other proposed plans or projects, on grounds of legal certainty it would seem appropriate to restrict the in-combination provision to those which have been actually proposed, i.e. for which an application for approval or consent has been introduced".*

Having consulted the Donegal County Council Planning Portal, there are no additional projects which will be considered for their potential in-combination effects. The applications within the sub catchment that drains to

Dungloe Bay and the water dependent Rutland Island and Sound SAC and the Illancrone and Inishkeeragh SPA are all small scale in nature, being predominantly one off housing or alterations to existing buildings.

In addition, given the main objective of the project is to prevent the migration of untreated leachate to the Glais Bheagáin stream and the hydrologically linked Lough Meela and Dungloe Bay, thereby reducing the pollutant loading to these water bodies, there is no potential for adverse in-combination effects with other plans or projects.

The current favourable conservation status of the qualifying features also indicates that the historical landfill is not currently posing a threat to the conservation status of the qualifying features of the SAC or the associated SPA. However the remediation plan will ensure that the historical landfill will have a significantly reduce risk to water quality in the future and therefore will ensure that the potential for in combination effects with other plans or projects will not occur.

The construction of the clay bund, interceptor ditch for overland flow and the directional drilling of the outlet diversion are of a scale and nature that will reduce to a de minimis level the likelihood for in-combination effects on the downstream European sites.

5. CONCLUSION OF THE STAGE 1 SCREENING APPRAISAL

The stage one screening appraisal has concluded that:

- The proposed project is not directly connected with or necessary to the management of any European site;
- In the absence of mitigation measures, likely significant effects on water quality and habitat deterioration **can be excluded** for Rutland Island and Sound SAC and Illancrone and Inishkeeragh SPA;

All other likely significant effects can be excluded at the screening stage of appraisal.

Having regard to the methodology employed and the findings of the screening stage assessment, it has been concluded that a Stage 2 appraisal of the implications of the proposed project **is not required**.

REFERENCES

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