SHADOW HABITATS REGULATIONS ASSESSMENT

Ballyross BESS

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SUMMARY

RPS was commissioned by Renewable Energy Systems (RES) to produce a Shadow Habitats Regulations Assessment (sHRA) to support a planning application for a proposed Battery Energy Storage System (BESS) on land at 34 Ballyvallagh Road, Larne.

The proposed project involves the construction of an appropriate maximum 120MW BESS facility, including the construction of battery enclosures, PCS/inverter units, associated substation infrastructure, access tracks, drainage systems and other ancillary works.

HRA is the process that considers the implications of a plan or project, either individually or in combination with other plans and projects, on a European site. The following report will therefore assist the Competent Authority in fulfilling its duties in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended).

Two designated sites where identified as being downstream of the proposed development, Larne Lough SPA and Larne Lough Ramsar. These sites are hydrologically connected to the application site (9.02km upstream) via Carneal Water, Raloo Water and Glenoe Water.

Of the two waterbodies present on the site or adjacent to it, the eastern stream was determined to be inaccessible to pollutants, being located uphill and 18m overland from the proposed BESS compounds location.

The western drainage stream however was located at a lower elevation, with any water or runoff from the proposed development's construction and operation potentially flowing into it, though a series of field drains and into Raloo Water before travelling downriver into Larne Lough.

Therefore, we recommend that best practice pollution mitigation measures outlined in **Section 4.4 Mitigation measures (**Pollution Prevention, Water Pumping, Storage of fuels and hazardous materials, Spill response plan and pollution control & emergency response planning) be implemented to prevent adverse impacts on the downstream european sites. As part of these measures we recommend a 10m buffer between all construction works and both the eastern steam and western drainage ditch. Works within this buffer (e.g above-ground SuDs construction) will be overseen by a suitably qualified Ecological Clerk of Works (ECoW) with silt traps and pumps installed where required.

Further information on the pollution mitigation measures to be implemented are outlined in the associated Construction Ennvironmental Management Plan (CEMP).

The implementation of the mitigation measures as set out above will reduce the likely significance of effects on Larne Lough Ramsar and Larne Lough SPA from a **Significant Negative Effect** to **No Significant Effect**.

1 INTRODUCTION

RPS was commissioned by Renewable Energy Systems (RES) to undertake a shadow Habitats Regulations Assessment (HRA) for a proposed Battery Energy Storage System (BESS) on land at 34 Ballyvallagh Road, Larne.

The Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) provide for the protection of habitats and species of European importance through the designation of European sites as part of the UK national site network. European sites are defined as Special Areas of Conservation (SAC) or Special Protection Areas (SPA).

The Regulations also set out the requirement that any plan or project not directly connected with or necessary to the management of a European site and likely to have a significant effect on a European site (either alone or in combination with other plans or projects) will be subject to appropriate assessment of the implications for the European site in view of the site's conservation objectives.

HRA is the process that considers the implications of a plan or project, either individually or in combination with other plans and projects, on a European site. The following report will therefore assist the Competent Authority in fulfilling its duties in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended).

1.1 Habitats Regulations Assessment

HRA consists of a staged approach (EC 2021) with each stage determining whether a further stage in the process is required.

Stage One: Screening - the process which identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to have a significant effect on the European site in view of the site's conservation objectives;

Stage Two: Appropriate Assessment - the consideration of the impact of the project or plan, either alone or in combination with other projects or plans, on the integrity of the European site with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Derogation - the process which examines alternative solutions to achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site and an assessment of suitable compensatory measures that are put in place where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

1.2 Proposed Project

The proposed project involves the construction of an appropriate maximum 120MW BESS facility, including the construction of battery enclosures, PCS/inverter units, associated substation infrastructure, access tracks, drainage systems and other ancillary works. The location of the site and the red line boundary are illustrated in **Figure 1.0 Site Location**.

1.3 Statement of Authority

The report has been approved for issue by James McCrory, Technical Director of Ecology with RPS. James holds a BA (Hons) in Natural Sciences (Mod) Botany and a MSc in Habitat Creation and Management. James is a Chartered Environmentalist (CEnv), a Chartered Ecologist (CEcol), a Chartered Biologist (CBiol) and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Royal Society of Biology (MRSB). James is a former member of the CIEEM Irish Section Committee and CIEEM Policy Review Group in Ireland and a member of the CIEEM technical working group updating the Guidelines for

Ecological Impact Assessment in the United Kingdom and Ireland. James currently sits on the CIEEM technical working group for EcIA accreditation across the Institutes practitioner network.

The report has been reviewed and edited by Roisin Ward, a Senior Ecologist within RPS and holds a BSc (Hons) in Land Use and Environmental Management and has over 10 years of experience in the field of ecology and environmental consultancy. Roisin has extensive experience of ecological field survey, including habitat, mammal, amphibian and invertebrate survey and is a protected species licence holder. Roisin is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

David Mulholland, author and lead surveyor, carried out Phase 1 Habitat Surveys, Fossitt Habitat Surveys, Bat Surveys, Ornithological Surveys, Smooth Newt Surveys and Badger Sett surveys. David is an Ecologist with RPS and holds a BSc (Hons) in Biological Sciences with Professional Studies, a MSc in Ecological Management and Conservation Biology and has two years of experience working in consultancy and conservation. David has experience of habitat, mammal, amphibian and bird survey. David is a Qualifying member of the CIEEM.

RPS confirm that the professional judgement expressed herein is the true and bona fide opinion of our professional ecologists. The information prepared and provided is accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2024).

2 LEGISLATION & PLANNING POLICY

The following legislation underpins the need to conduct comprehensive assessment of the potential impact a proposed development could have on the environment and qualifying features of sites designated under the Habitats Directive.

2.1 International Directives

- Habitats Directive 92/43/EEC
- Ramsar Convention on Wetlands of International Importance (1971)
- Bern Convention on Conservation of European Wildlife and Natural Habitats (1979)
- Bonn Convention on Conservation of Migratory Species of Wild Animals (1979)
- Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (The Habitats Directive)
- Convention on Biological Diversity (1993)
- Council Directive on the Conservation of Wild Birds (2009/147/EC) (The Birds Directive)

2.2 Northern Ireland Legislation

- The Wildlife (Northern Ireland) Order 1985 (as amended)
- Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended)
- Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended)
- Environment (Northern Ireland) Order 2002
- Wildlife and Natural Environment Act (Northern Ireland) 2011
- Marine Act (Northern Ireland) 2013 (The Marine Act)
- Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019 (as amended)

2.3 Northern Ireland Planning Policy

- Strategic Planning Policy Statement for Northern Ireland (SPPS) 2015
- Mid and East Antrim Local Development Plan (2023)

2.4 Local Biodiversity Action Plans

- Mid and East Antrim Local Biodiversity Action Plan (2023)

3 STAGE ONE: SCREENING

3.1 Introduction

The screening assessment examines the likely effects of the project, either alone or in combination with other projects or plans, upon European sites and considers whether it can be objectively concluded that the effects will not be significant. The screening assessment is carried out in the absence of any consideration of mitigation measures that form part of the project and are designed to avoid or reduce the impact of the project on a European site (EC 2002). Mitigation measures are defined as '*measures aimed at minimising or even cancelling the negative impact of a plan or project during or after its completion*' (EC 2000).

3.2 Management of the Site

Projects related to the conservation management of a European site are generally excluded from assessment (EC 2000). The proposed project is not directly connected with or necessary to the management of any European site and is therefore subject to assessment.

3.3 Description of the Project

3.3.1 Proposed Project

The proposed project involves the construction of an appropriate maximum 120MW BESS facility, included the construction of battery enclosures, PCS/inverter units, associated substation infrastructure, access tracks, drainage systems and other ancillary works. The location of the site and the red line boundary are illustrated in **Figure 1 Site Location**.

3.3.2 Zone of Influence

The Zone of Influence (ZoI) for a project is the area over which ecological features may be affected by biophysical changes as a result of a proposed project and its associated activities.

These include European sites located within the boundary of the project; European sites in immediate proximity to the boundary of the project; and European sites outside the boundary of the project that may be connected to the project through an identifiable impact pathway.

The proposed project is located within several agricultural fields adjacent to 34 Ballyvallagh Road, Larne. The project will involve the construction of access roads through the agricultural fields and the creation of a BESS compound in the southernmost field.

The Eastern Stream flows along the sites boundary into Carneal Water then downriver into the Glynn River before entering Larne Lough.

The site is also bounded on its south and western perimeter by the Western Drainage Ditch, which is connected to several other drainage channels that flow into Raloo Water, downriver into the Glynn River and Larne Lough.

Furthermore, sites overland were assessed up to 5km around the proposed developments boundary, however no connectivity pathways where identified. Therefore, this ZoI encompasses two designated sites: Larne Lough Ramsar and Larne Lough SPA. **Table 1 European Sites & their Qualifying Interests** below outlines the qualifying interests of these designated sites. These European Sites are therefore considered in the subsequent screening assessment of the sHRA.

The location of the proposed project in relation to these European sites is illustrated in **Figure 2 European Sites**.

Table 1: European Sites & their Qualifying Interests

Site Code	Site Name	Distance from Site	Qualifying Features	Progress to Screening	Likely Significant Effect Reason
UK9020042	Larne Lough SPA	8.4km Downstream via eastern stream, Carneal Water & Glenoe Water 9.08km downstream via Western Drainage Ditch, Raloo Water & Glenoe Water 9.14km overland NE	• Roseate Tern *Sterna dougallii* • Common Tern *Sterna Hirundo* • Light Bellied Brent Geese *Branta bernicla hrota* • Sandwich Tern *Thalasseus sandvicensis* • Mediterranean Gull *Ichthyaetus melanocphalus*	Yes	Hydrologically connected to the Application Site through the eastern boundary stream via Carneal Water, Raloo Water & Glenoe Water. Hydrologically connected via the western drainage ditch via field drains into Raloo Water. Risk of sediment or contaminants from construction travelling downstream.
UK12013	Larne Lough Ramsar Site	8.4km downstream via eastern stream, Carneal Water & Glenoe Water 9.08km downstream via Western Drainage Ditch, Raloo Water & Glenoe Water 9.14km overland NE	• Light Bellied Brent Geese *Branta bernicla hrota* • Roseate Tern *Sterna dougallii* • Common Tern *Sterna Hirundo*	Yes	Hydrologically connected to the Application Site through the eastern boundary stream via Raloo Water & the Glenoe Water. Hydrologically connected via the western drainage ditch via field drains into Raloo Water. Risk of sediment or contaminants from construction travelling downstream.
UK9020301	Antrim Hill SPA	6.12km NW Overland	• Hen Harrier • Merlin	No	No pathways for impacts on this SPA are present. There are no suitable habitats within the site for its designated species and no hydrological or noise connectivity pathways are present. No significant impacts are expected.
UK0030384	The Maidens SAC	17.25**km** downstream via eastern stream, Carneal Water & Glenoe Water 17.93km downstream via Western Drainage Ditch, Raloo Water & Glenoe Water	• Reef Habitats • Sandbanks which are slightly covered by sea water all the time • Grey Seal *Halichoerus grypus* • Common Seal *Phoca vitulina* • Harbour Porpoise *Phocoena phocoena*	Yes	Hydrologically connected to the Application Site through the eastern boundary stream via Raloo Water & the Glenoe Water. Any potential sediments will be so highly diluted due to the distance they would be required to travel downriver, into Larne Lough and the Irish Sea. No significant impacts are expected.
UK9020320	East Coast Marine pSPA	8.4km downstream via eastern stream, Carneal Water & Glenoe Water 9.08km downstream via Western Drainage Ditch, Raloo Water & Glenoe Water	• Great Crested Grebe wintering population a • Red-throated Diver • Sandwich Tern • Common Tern • Arctic Tern • Manx Shearwater • Eider Duck • Associated habitats • Roosing bird sites • Harbour Porpoise *Phocoena phocena*	Yes	Hydrologically connected to the Application Site through the eastern boundary stream via Raloo Water & the Glenoe Water. Hydrologically connected via the western drainage ditch via field drains into Raloo Water. Risk of sediment or contaminants from construction travelling downstream.
UK0030399	North Channel SAC	17.25km downstream via eastern stream, Carneal Water & Glenoe Water	• Harbour Porpoise *Phocoena phocena*	Yes	Hydrologically connected to the Application Site through the eastern boundary stream via Raloo Water & the Glenoe Water. Any potential sediments will be so highly diluted due to the distance they would be

Site Code	Site Name	Distance from Site	Qualifying Features	Progress to Screening	Likely Significant Effect Reason
		17.93km downstream via Western Drainage Ditch, Raloo Water & Glenoe Water			required to travel downriver, into Larne Lough and the Irish Sea. No significant impacts are expected.

3.4 Larne Lough SPA

3.4.1 Description of the Site

Larne Lough SPA (DAERA 2015b) was confirmed a SPA in 1995 (Site Code UK9020042) and is 398 hectares in size. The primary reason for designation is the presence of internationally important breeding populations of Roseate Tern *Sterna dougallii*, Common Tern *Sterna Hirundo* and Sandwich Tern *Thalasseus sandvicensis*, nationally significant populations of Mediterranean Gull *Ichthyaetus melanocephalus* ; and internationally important wintering populations of light-bellied brent geese *Branta bernicla hrota*.

3.4.2 East Coast Marine pSPA

3.4.3 Description of the Site

East Coast Marine pSPA (DAERA, 2015a) was confirmed a pSPA in 2016 (Site Code UK9020320) and is 96668.34 hectares in size. The primary reason for designation is the presence of internationally important populations of Great Crested Grebe wintering population, Red-throated Diver, Sandwich Tern, Common Tern, Arctic Tern, Manx Shearwater, Eider Duck, Associated habitats,Roosting bird sites and Harbour Porpoise *Phocoena phocena*

3.5 Larne Lough RAMSAR

3.5.1 Description of the Site

Larne Lough Ramsar (DAERA, 2017a) was confirmed a Ramsar Site in 1975 (Site Code UK12013) and is 398 hectares in size. The primary reason for designation is the presence of internationally important breeding populations of Roseate Tern *Sterna dougallii*, Common Tern *Sterna Hirundo* and Sandwich Tern *Thalasseus sandvicensis*; and internationally important wintering populations of light-bellied brent geese *Branta bernicla hrota*.

Larne Lough Ramsar shares its boundary and several qualifying features with Larne Lough SPA and partially East Coast Marine pSPA, therefore they have been assessed together below.

3.6 The Maidens SAC

3.6.1 Description of the Site

The Maidens SAC (DAERA, 2017b) was confirmed a SAC in 1986 (Site Code UK0030384) and is 7461.36 hectares in size. The primary reason for designation is the presence of internationally important reefs, sandbanks, Grey Seal (*Halichoerus grypus),* Common Seal (*Phoca vitulina) and* Harbour porpoise (*Phocoena phoceona).*

3.6.2 North Channel SAC

3.6.3 Description of the Site

North Channel SAC (JNCC, 2024) was confirmed an SAC in 2017 (Site Code UK0030399) and is 160367.0 hectares in size. The primary reason for designation is the presence of internationally important populations of Harbour Porpoise *Phocoena phocena.*

3.6.4 Impact Prediction

3.6.4.1 Suspended Sediments and Pollution

No elements of the proposed development are within the boundary or necessary to the operation or integrity of any nearby European Sites. The site is located 9.14km overland from Larne Lough SPA, East Coast Marine pSPA and Larne Lough Ramsar, with two hydrological connectivity pathways via Carneal Water (8.40km) and Raloo Water (9.08km) as outlined in **Table 1 European Sites & their Qualifying Interests & Figure 2 European Sites Map.**

The Carneal Water pathway will be referred to as the **Eastern Stream** (Plate 6, EcIA) and the Raloo Water pathway will be referred to as the **Western Drainage Ditch** (Plate 7, EcIA) for the remainder of this assessment.

The application site is located on a hill, with the site possessing a substantial gradient. The Eastern Stream is located (estimated 10m) outside the application site boundary and at the highest elevation of the sites gradient. The Eastern Stream deposits water onto the application site through areas where its embankment has been degraded or damaged (Plate 1, EcIA), resulting in several small, shallow streams (Plate 3, EcIA) flowing through the sites improved grassland, downhill towards the Western Drainage Ditch at the sites lowest elevation.

As the Eastern Stream is located outside the sites boundary and at a higher elevation, buffered by an established hedgerow, it is unlikely that any pollutants or runoff from construction will be able to enter this watercourse or travel upstream and uphill through the shallow streams running across the application site. Therefore, in the absence of mitigation measures we can screen out the Eastern Stream as a pathway for pollutants to exit the site and cause diminuation of water quality in Larne Lough SPA, East Coast Marine pSPA, The Maidens SAC, North Channel SAC and Larne Lough Ramsar.

The Maidens SAC and North Channel SAC are located 17.25km downstream via the Eastern Stream Pathway and 17.93km downstream via the Western Drainage Ditch. These two sites are located beyond Larne Lough and within the Irish Sea. Due to the substantial distance downriver any pollutants or sediments would be required to travel, we expect that any released from the site in the absence of mitigation would be so diluted and minimal that they would have **No Significant Impact** on the integrity of these sites qualifying features. The Maidens SAC and North Channel SAC have therefore been screened out of further assessment.

Antrim Hill SPA shares no hydrological connectivity pathways with the application site. **No significant impacts** are expected due to sedimination or water pollutants on this site due to the proposed development.

However, the Western Drainage Ditch is located at the sites lowest elevation, with the Eastern Stream depositing water downhill into this ditch through the areas where its embankment is degraded. The Western Drainage Ditch is connected to several other adjacent field drainage ditches and is therefore able to carry pollutants and runoff from construction and operation off site, into Raloo Water. The proposed development has the potential to give rise to water quality and habitat deterioration effects through the inadvertent release of suspended sediments or pollutants into the freshwater environment which may subsequently enter Larne Lough SPA, East Coast Marine pSPA and Larne Lough Ramsar.

Therefore, the proposed development could have a Likely **Significant Negative Impact** on Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA's qualifying features (Protected Bird Species & Associated Habitats) in the absence of mitigation.

3.6.4.2 Noise and Visual Disturbance

The proposed development is located 9.14km inland from Larne Lough SPA, East Coast Marine pSPA, Larne Lough Ramsar and a further 11km inland from The Maidens SAC and North Channel SAC. The application site is located 6.12km overland from Antrim Hill SPA.

Due to the substantial distance from the application site, disturbance through increased noise producing activities, and the movement of personnel and machinery during the summer or winter months is unlikely to occur at a significant level.

No likely significant noise and visual impacts are expected, therefore they have been screened out for all relevant European sites, in the absence of mitigation measures.

3.6.4.3 Air Quality

The proposed project will give rise to dust and traffic movements temporarily during construction phase. Activities will have limited vehicular activity operating over a short duration due to the relatively small-scale nature of the proposed works. Emissions from traffic generated by the construction of the proposed development are not anticipated to be sufficient to give rise to any significant increases to the deposition of Ammonia NH3, Nitrogen Oxides NOx, Sulphur Dioxide SO2 or nutrient nitrogen, within the Larne Lough SPA or Ramsar site.

No operational phase impacts associated with air quality and associated nutrient deposition are predicted as a result of the proposed development.

No likely significant air quality impacts are expected, therefore they have been screened out for all relevant European sites, in the absence of mitigation measures.

3.6.5 In Combination with Other Plans or Projects

Pressures on Larne Lough

Larne Lough is heavily influenced by human activities, such as industry, shipping, commercial fishing, shellfish aquaculture and leisure usage.

There are currently a number of impacts occurring on Larne Lough SPA, East Coast Marine pSPA and Ramsar that have an influence on its conservation and management including outdoor sports, leisure and recreational activities; changes in abiotic conditions; mining and pollution to surface; fishing and harvesting aquatic resources; shipping lanes, ports and marine constructions and marine water pollution.

In the absence of mitigation, the proposed development could introduce synergistic marine water pollution in combination with ongoing activies due to construction runoff flowing downriver into Larne Lough.

Planning Applications

A search of the Northern Ireland Planning Register (NI Planning Portal, 2025) was conducted, assessing projects of similar scale in the immediate area of the proposed development. Developments related to energy infrastructure, large scale residential developments and large scale industrial developments were to be scoped in, however none were found within the proposed developments immediate zone of interest (2km zone around the application site)

All other applications in the surrounding area were either historic record (10 years or older), minor additions to existing properties of much smaller scale than the proposed development (e.g individual dwelling construction or barn construction). None of these nearby projects had a Shadow Habitats Regulation Assessment or Appropriate Assessment Screening reports submitted with their applications and are therefore indicated to be sub-threshold for any impacts on designated sites.

We expect no significant in-combination effects with the proposed development any any nearby projects.

Mid & East Antrim Local Development Plan 2030

As part of our assessment of potential impacts on nearby designated sites, the Mid & East Antrim Local Development 2030 was reviewed to determine if the proposed expansion of public services and changes in land use outlined in the plan would have in-combination effects with the proposed developments approval.

LDP Policy TEI1 Telecommunications & Electricity Infrastructure outlines the following criteria:

"a) There is a need for the proposed development at that location

b) The proposal minimises visual intrusion

c)The proposal avoids sensitive locations or features unless it is clearly demonstrated to the satisfaction of the council as to why this cannot be achieved: and

d) The proposal meet the ICNIRP guidelines for public exposure to electromagnetic fields"

Section 9.4.15 Electricity Infrastructure outlines the following:

"New and upgraded electricity infrastructure including poles, pylons, transofmrers, substations and cables are vital in constributing towards out wider sustainable energy objectives but need to be balanced carefully against the potential impacts on the environment and amenity. Investing in our electricity infrastructure is critical for maintaining energy security and ensuring we can meet these objectives and contribute towards a diverse energy mix. Proposals for strategic energy infrastructure and development will be assessed against Policy TEI1, Policy GP1 and other relevant policies of this plan as appropriate."

Policy GP1 General Policy for all Development outlines the following relevant information:

"e) *Criteria relating to Sustainable Development*

- *i) Development proposals., particularly major applications will be expected to generally align with the LDP Spatial Growth Strategy.*
- *ii) Essential infrastructure to facilitate the development or if lacking there must be a firm commitment in regard to its timely provision*
- *iii) The development shall utilise sustainable drainage systems as the preferred drainage solution, where feasible and practicable to ensure that surface water run off is managed in a sustainable way*
- *iv) The development does not have an unacceptable adverse impact on the quality and integrity of the environment, particularly upon local biodiversity and the delivery of ecosystem services beneficial to the community [..]"*

As any potential pathways for significant adverse effects to impact Larne Lough by a proposed development will be screened out and mitigated for through the guidelines outlined above, we expect that there will be no significant alone or in-combination with the proposed development and any developments constructed as part of the Mid & East Antrim LDP.

Conclusion of In-Combination Assessment

While the proposed development will produce no significant effects alone or in-combination with the Mid & East Antrim LDP or any nearby porjects, there is still a risk of syngergistic marine water pollution occurring due to pollutants escaping the development and reaching Larne Lough in the absence of mitigation.

Therefore, due to this risk of synergistic pollution, **we cannot exclude in-combination effects occurring in the absence of mitigation due to the proposed development on Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA.**

3.7 Assessment of Significance

Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA are considered within the Zone of Influenced (ZoI) of the proposed project. Stage One Screening concludes that there will be likely significant effects on these European sites in relation to diminuation of water quality in the absence of mitigation measures and therefore the project must be subject to Stage Two Appropriate Assessment.

4 STAGE 2: APPROPRIATE ASSESSMENT

4.1 Introduction

Appropriate Assessment considers the impact of the project (either alone or combination with other projects or plans) on the integrity of a European site with respect to the conservation objectives of the site and to its structure and function. Integrity of the site is defined as '*the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is… classified*' (EC 2000).

4.2 European Sites Conservation Objectives

Stage One Screening concluded likely significant effects on Larne Lough SPA, East Coast Marine pSPA and Larne Lough Ramsar. The following sets out the conservation objectives for the qualifying features for which there is insufficient evidence to conclude that there will not be any likely significant effects.

4.2.1 Larne Lough SPA

4.2.1.1 Breeding Waterbird & Associated Habitats

- *To maintain and enhance the population or the qualifying species*
- *Increase fledging success sufficient to maintain or enhance the population*
- *To maintain or enhance the range of habitats utillised by the qualifying species*
- *To ensure the integrity of the site is maintained*
- *To ensure there is not significant disturbance of the species*
- *To ensure that the following are maintained in the long term:*
  - *Population of the species as a viable component of the site*
  - *Distribution of the species within the site*
  - *Distribution and extent of the habitats supporting qualifying species*
  - *Structure, function and supporting process of habitats supporting the species*
- Sandwich Tern breeding population As above
  - Sandwich Tern breeding population Fledging success sufficient to maintain or enhance population
- Roseate Tern breeding population As above
  - Roseate Tern breeding population Fledging success sufficient to maintain or enhance population
- Common Tern breeding population As above
  - Common Tern breeding population Fledging success sufficient to maintain or enhance population
- Light-bellied Brent Goose wintering population As above
- Habitat extent To maintain or enhance the area of natural and semi-natural habitats used or potentially usable by Feature bird species (325 ha intertidal area), (breeding areas 1 ha) subject to natural processes
- Habitat extent Maintain the extent of main habitat components subject to natural processes Roost sites Maintain or enhance sites utilised as roosts

4.2.2 Larne Lough Ramsar

4.2.2.1 Light-bellied Brent Geese (*Branta bernicla hrota)*

- Internationally important numbers of wintering Light Bellied Brent Geese

4.2.2.2 Red Listed Waterbird Assemblages

- Nationally important breeding Roseate Tern *Sterna dougallii* populations
- Nationally important breeding Common Tern *Sterna Hirundo* populations

4.2.3 East Coast Marine pSPA

- To maintain or enhance the population of the qualifying species
- To maintain or enhance the range of habitats utilised by the qualifying species
- To ensure that the integrity of the site is maintained;
- To ensure there is no significant disturbance of the species and
- To ensure that the following are maintained in the long term:
  - Population of the species as a viable component of the site
  - Distribution of the species within site
  - Distribution and extent of habitats supporting the species
  - Structure, function and supporting processes of habitats supporting the

4.2.3.1 Protected Marine Bird Species

- Great Crested Grebe wintering population*
- Red-throated Diver wintering population
- Sandwich Tern breeding season
- Common Tern breeding season
- Arctic Tern breeding season
- Manx Shearwater breeding season
- Eider Duck wintering population

4.2.3.2 Protected Habitats

- Maintain the extent of main habitat components subject to natural processes

4.2.3.3 Roosting/Loafing Sites

- Maintain all locations of sites

4.3 Impact Prediction

The proposed project has been identified as having the potential for likely significant effects in relation to water pollution which and the diminuation of water quality which could give rise to adverse impacts upon Larne Lough SPA, East Coast Marine pSPA and Larne Lough Ramsar's qualifying species and habitats with respect to the conservation objectives outlined above in the absence of mitigation measures both alone and in-combination with other plans and projects.

4.4 Mitigation Measures

DAERA Standing Advice for Pollution Prevention Guidance (DAERA 2025) will be adhered to in order to protect watercourses from potential adverse effects during all phases of the proposed project in tandem with the guidance outlined below.

4.4.1 Pollution Prevention

The following pollution control measures will be adhered to during the construction phase:

- Prior to entering the site and also twice daily all vehicles and plant material shall be cleaned and checked for leaks or drips.
- No container is to be filled more than ¾ full with fuel.
- Refuelling will take place, where possible, remote from the site and within suitable oil receptors.
- Any refuelling on site will take place at the Contractor's site compound and always at least 10m from any watercourse (Western Drainage Ditch & Eastern Stream).
- All oil/fuel at the compound will be adequately stored to ensure that any potential spill is contained and treated on site and that none can reach any drainage system.
- All machinery/material/spoil storage and any concrete mixing or washing areas will be carried out at the Contractor's compound and at least 10m from any nearby watercourses.
- Silt curtain/ screen to be used to ensure bed material which becomes agitated during the piling works (If any are required to occur) is confined to within the site of the works.

The following mitigation measures will be implemented to prevent pollutants entering drainage channels and reaching the Larne Lough SPA and Larne Lough Ramsar sites downstream of the application site.

- No pollutants, including sediments will be allowed to enter the watercourses during construction operations; this will be prevented by civil engineering methods (i.e. formation of drainage channels) and installation of silt fencing.
- No excavation works will be conducted within 10m of known watercourses.
- The recommendations included within the Piling Risk Assessment shall be adhered to (if piling is required), to minimise the risk of contamination of the groundwater caused by pollutants spreading from wet concrete.
- Any wet concrete required for the development works will be pre-mixed off site and transported in dedicated lorries.
- No washing or cleaning of concrete equipment or vehicles will be conducted on the site.

4.4.2 Water Pumping

- If pumping of water is required onsite, this will be done by pumping water over hardstanding or vegetated area, through terram and/or through installed silt fencing. These methods will slow the water flow and filter any potential silt from the water.

- The requirement for water pumping will be planned in advance (as far as is practicable) and a permit to pump procedure will be in place to ensure that water pumping is controlled.

4.4.3 Storage of fuels and hazardous materials

- All storage of fuels will comply with The Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 and follow the pollution protection guidance GPP 2 “Above ground oil storage tanks”, GPP5 “Works and maintenance in or near water” and PPG26 “Safe Storage - drums and intermediate bulk containers” (UK GOV, 2023).
- Any temporary storage areas for chemicals or fuels will be contained within impermeable bunds constructed in line with current best practice. Pollution Prevention Plans will be prepared, and site staff trained to implement them. The pollution prevention plan will include pollution incident response planning which follows GPP21 “Pollution Incident Response Planning” and GPP22 ‘Dealing with spills’;
- Consideration will be given to the phasing of construction to reduce the time when temporary facilities for storage of chemicals refuelling and vehicle maintenance are used to a minimum.
- As per The Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010, all fuel shall be stored in integral bunded fuel bowers, designed to hold 110% of the contents of the tank. If more than one container is stored, the secondary containment system will be capable of storing not less than 110% of the largest container's storage capacity or 25% of their aggregate storage capacity, whichever is the greater. Secondary containment for any drums will have a capacity of not less than 25% of the drum's storage capacity or, if more than one drum, not less than 25% of the aggregate storage capacity of the drums.
- The tank(s) will have a fill point which is a lockable screw fill cap with a chain and be marked clearly with the product type, tank capacity and, where appropriate, tank number. All tanks will be fitted with a suitable sight gauge.
- All storage tanks/ connections shall be situated within a secondary containment (bund), which will be impermeable to oil and water and have no direct outlet such as a pipe, valve or other opening to drain the system.
- Fuel shall be stored at least 15m away from the drainage channels or drainage manholes. A suitable location will also be selected to minimise the risk of damage to the fuel storage and the secondary containment system by impact or collision.
- If the fuel storage area or the Site is liable to flooding, the fuel storage tank(s) will be raised above predicted flood water levels, as long as this doesn’t compromise the tank integrity, safe delivery and handling of the fuel.
- Oils and lubricants used on the Site shall be stored in temporary vessels designed to hold 110% of the containers. No oil or lubricants shall be stored within 15m away from drainage channel or a drainage manhole.
- Refuelling will only take place in designated areas, on hardstanding, by appropriately trained personnel. The funnels/nozzles used will be appropriate to the equipment being used. The fill cap will be replaced on to the fill point after each delivery to protect it from damage and unauthorised use.
- Refuelling on the Site shall be undertaken at least 15m from the drainage channel. Tanks, pipes, taps and valves will be locked when not in use.
- Only double bunded fuel bowsers shall be used. Vehicles shall not be left unattended during refuelling operations.
- All fuel, chemicals and oils shall be stored within bunded areas.
- All tank discharge pipes, valves and trigger guns shall be contained securely within the bund when not in use.

- Bowsers shall be stored within secure areas when not in use, protected from theft and vandalism.
- All plant shall be checked for leaks of fuel and lubricants before being allowed onto the Site, whilst onsite, they shall be checked on a daily basis.
- Pumps and generators used on the site will have integral drip trays where possible. All items of plant without an integral drip tray shall be stored over a portable drip tray. Drip trays shall be inspected and kept free of accumulated rainwater as necessary. Any oily water shall be disposed of at an appropriate licensed facility.
- Any cleaning/arisings from drip trays etc. will be disposed of as hazardous waste.

4.4.4 Spill response plans and pollution control measures

- A spill response kit will be available onsite and accessible to all to control pollution incidents. These spill kits will contain absorbent pads, absorbent granules and methods of disposal of materials and used kit. These kits will be located at appropriate points around the Site which are considered to be at a higher risk of pollution (e.g. refuelling area and next to fuel tanks). Further spill kits and supplies will be located in the stores within the Site, where replacements for used kits will be found.
- Spill kits will need be regularly inspected and immediately replaced if used.
- Toolbox talks will be communicated to Site staff and contractors so that they are fully informed of refuelling procedures.

4.4.5 Emergency response plan

- An emergency pollution response plan (EPRP) will be developed by the Principal contractor and include location of the spill response kits, details of the site drainage infrastructure and how spillages are to be prevented from entering the drainage network; and incident notification procedures.
- The EPRP will incorporate the contents of this oCEMP and contain as a minimum:
- Location of all spill kits;
- Details of site drainage infrastructure and how spillages are to be prevented from entering this network and residue removed from site;
- An assessment of excavation and earthworks likely to cause silty run-off and the mechanisms required to mitigate this risk;
- Neighbour notification procedures;
- Incident notification procedures and responsibilities;
- Staff notification and briefing and site induction procedures for environmental issues; and,
- Contact details for all Regulatory Authorities and relevant Emergency Services to be contacted in the event of a pollution incident.
- Site staff will be trained in mitigating impacts to the environment, resulting from a pollution incident.
- Pollution control equipment will be available in high-risk areas and will be checked on a weekly basis to ensure the equipment is available and re-stocked if used.
- Work will be stopped in the vicinity of any spill and the discharge stopped at source (i.e. turn plant off). Containment equipment will be deployed in the form of spill kits/booms/sandbags/granules/straw bales/terram, depending on the type of pollution discharged. The Site Manager and Project Manager will be notified immediately and used pollution control equipment will be disposed of in accordance with NIEA guidance and legislation. In the event of a severe pollution incident NIEA Emergency pollution Hotline 0800 80 70 60 will be contacted within 30 minutes of the incident occurring.

- Toolbox talks will be communicated to site staff and contractors so that they are fully informed of Dealing with Environmental Incidents.
- In addition, it shall be the Principal Contractor's responsibility to prepare and report at regular progress meetings and actions taken to adhere to the finalised CEMP, any incidents or near misses since the last progress meeting, regulatory involvement and any mitigation action taken if required.

5 CONCLUSION

Screening has been completed to identify the likely significant effects of a proposed project at 34 Ballyvallagh Road on Larne Lough Ramsar, East Coast Marine pSPA and Larne Lough SPA. Screening concluded likely significant effects on these European sites in relation to pollution in the absence of mitigation measures and it was therefore necessary to carry out Appropriate Assessment.

Appropriate Assessment has been completed and concludes that the proposed project is not directly connected with or necessary to the management of any European site; will not give rise to adverse effects on the integrity of any European site with implementation of the mitigation measures outlined above; and will not give rise to significant in-combination effects with the other plans or projects. It can be objectively concluded with supporting evidence that there will be no adverse effects on the integrity of any European site.

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Figures

Figure 1 Site Location

Figure 2 European Sites Map

Figure 1 Site Location

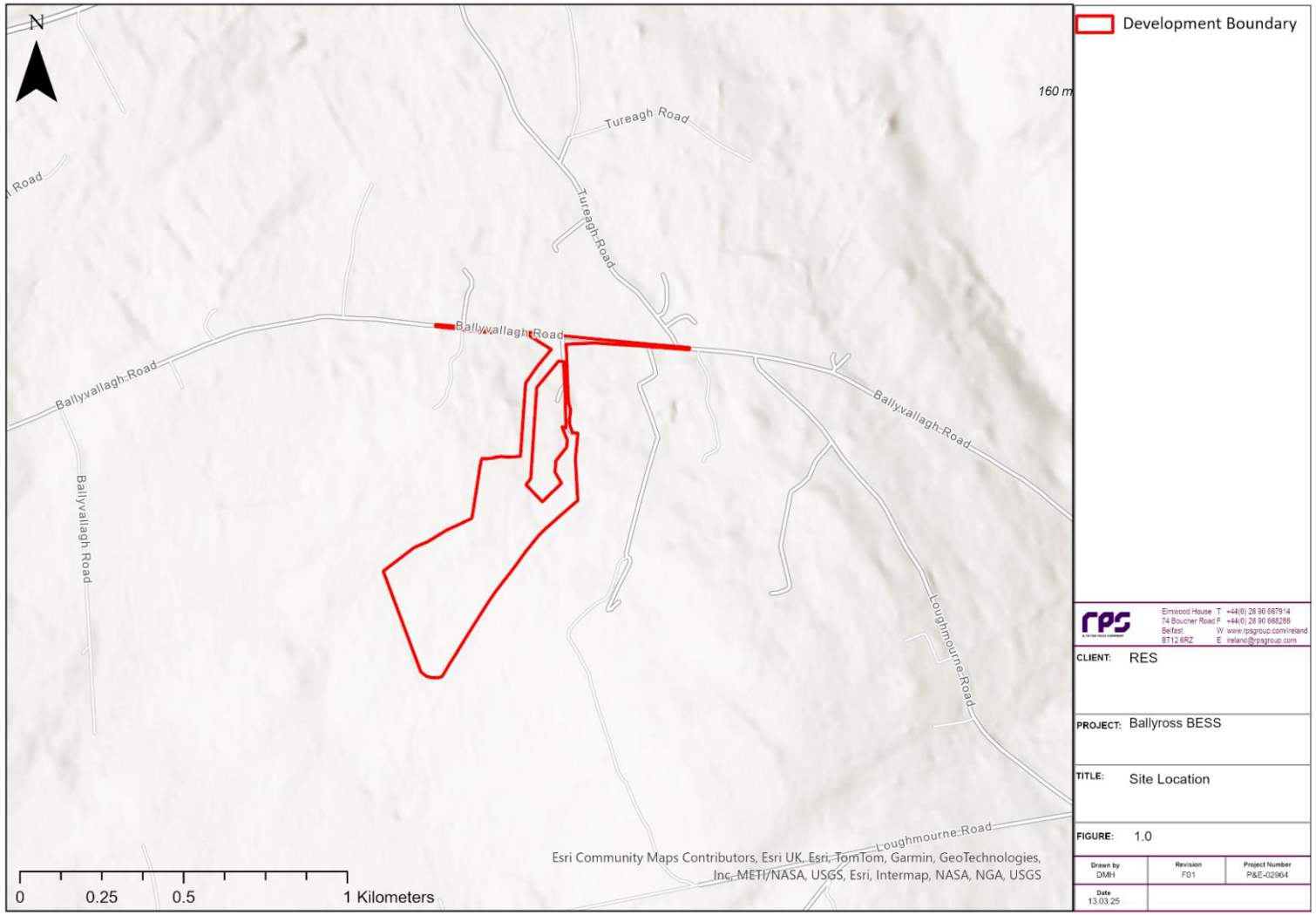

Figure 2 European Sites Map