AVRIO

# Stage 2 Habitat Regulation Assessment

Sea Defence Section 14C2, Coleraine, Co. Derry

# Project Details

| | |
|---|---|
| Project Reference: | AEMP – 562 (A167 – T34) |
| Date of Issue: | 26th May 2026 |
| Client: | Amey LTD |
| Site Address | Sea Defence Section 14C2, Coleraine, Co. Derry |
| Services Provided: | Preparation of an 'Article 6 (3) Habitat Regulation Assessment' |

# AVRIO Quality Information

| | | |
|---|---|---|
| Reviewed by: | [redacted] (Senior Ecological Consultant)<br>AVRIO Environmental Management | Signed: [redacted] |
| Produced by: | [redacted] (Senior Ecological Consultant)<br>AVRIO Environmental Management | Signed: |
| Approved by: | [redacted] (Principal Ecological Consultant)<br>AVRIO Environmental Management | Signed: |

# Limitations

AVRIO Environmental Management ("AVRIO") has prepared this report for the sole use of the Client in accordance with the Agreement under which AVRIO's services are performed. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by AVRIO. This report is confidential and may not be disclosed by the Client nor relied upon by any other party without the prior and express written Agreement of AVRIO.

Conclusions and recommendations contained within this report may be based on information provided by others. AVRIO assumes all relevant information provided by those parties from whom it was requested is accurate. Information obtained by AVRIO was not independently verified by AVRIO unless otherwise stated in this report.

The works described in this report were undertaken between August 2025 and September 2025. These works were based on the conditions encountered and the information available during this said period of time. AVRIO accepts no liability for any matters arising if any recommendations contained in this document are not carried out or are partially carried out without further advice being obtained from AVRIO. This report is based on site conditions witnessed by AVRIO or other parties as required in accordance with the Agreement under which AVRIO's services are performed. The scope of this report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and, where appropriate, are subject to further investigations or information which may become available.

AVRIO disclaim any undertaking or obligation to advise any person of any change in any matter affecting this report, which may come or be brought to AVRIO's attention after the date of the report.

Certain statements made in this report that are not historical facts may constitute estimates, projections, or other forward-looking statements. Even though these are based on reasonable assumptions as of the date of the report, such forward-looking statements, by their nature, involve risks and uncertainties that could cause actual results to differ materially from the results predicted. AVRIO explicitly does not guarantee or warrant any estimate or projections contained in this report.

Unless otherwise stated in this report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

Where field investigations were carried out, these investigations have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time, and further confirmatory analyses should be made after any significant delay in issuing this report.

# Contents

# 1. Introduction

## 1.1 Background

AVRIO Environmental Management Limited, hereafter "AVRIO", has been appointed Amey LTD to undertake a Habitats Regulation Assessment for works at Sea Defence Section 14C2, Coleraine, Co. Derry (IGR: C 81955 34947). This also included a small site compound area at C 80976 35107, of which the site will be accessed via Railway Track from this location.

## 1.2 Requirement for an Appropriate Assessment

The purpose of the assessment is to determine the appropriateness of the proposed project in the context of the conservation status of a European protected site or sites. In Northern Ireland, an Appropriate Assessment takes the form of a Habitats Regulation Assessment (HRA). A HRA refers to the several distinct stages of assessment which must be undertaken in accordance with The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended 2019)[1], [2] and The Conservation of Offshore Marine Habitats and Species Regulations 2017[3] to determine if a plan or project may affect the protected features of a habitats site before deciding whether to undertake, permit or authorise it. An appropriate assessment is required in order to assess the likely significant effects (LSE) of a plan or project either individually or in combination with other plans or projects on a protected habitats site (European/Ramsar sites).

## 1.3 The Aim of the Report

This HRA has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (E.C., 2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (E.C., 2018) and it provides an assessment of the potential effects of the development at Sea Defence Section 14C2, Coleraine, Co. Derry.

A HRA should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura 2000 sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated. Accordingly, a comprehensive assessment of the potential impacts of this application was carried out between August 2025 and September 2025 by AVRIO. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the development to be assessed and mitigated for.

[1] UK Government (1995) The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995: Available at The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995
[2] Northern Ireland Assembly (2019) The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019: Available at The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019
[3] UK Government (2017) The Conservation of Offshore Marine Habitats and Species Regulations 2017: Available at The Conservation of Offshore Marine Habitats and Species Regulations 2017

# 1.4 Regulatory Context

## 1.4.1 Relevant Legislation

### *1.4.1.1 The Birds Directive*

- The Birds Directive (Council Directive 2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats[4]. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conservation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species, and the SPA areas are of international importance for these migratory birds.

### *1.4.1.2 The EU Habitats Directive*

- The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.[5] Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs).

### *1.4.1.3 The Water Framework Directive*

- The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003)[6]. The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2021 and that status does not deteriorate in any waters.

## 1.4.2 Habitats Regulations Assessment Process

Guidance on the Habitats Regulations Assessment process was produced by the European Commission in 2002. These guidance documents identify a staged approach to conducting a Habitats Regulations Assessment, as shown Diagram 1. Additional supplementation was also taken from guidance from "Guidelines for Ecological Report Writing"

[4] European Communities (Conservation of Wild Birds) Regulations, 1985, SI 291/1985 & amendments – http://www.irishstatutebook.ie;
[5] European Communities (Natural Habitats) Regulations, SI 94/1997, SI 233/1998 & SI 378/2005 – http://www.irishstatutebook.ie;
[6] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

(CIEEM, 2017)[7] and from the Office of the Planning Regulator (2021)[8]; where guidance in Northern Ireland was limited, this was supplemented with guidance from the Republic of Ireland and United Kingdom.

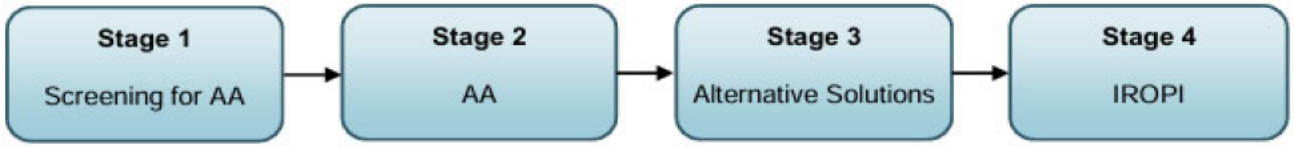



**Diagram 1**: The Appropriate Assessment Process (from: Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, DEHLG, 2009)

### *1.4.2.1 Stage 1 – Screening for Habitats Regulations Assessment*

The initial, screening stage of the Habitats Regulations Assessment is to determine:

a. whether the proposed plan or project is directly connected with or necessary for the management of the European designated site for nature conservation
b. if it is likely to have a significant adverse effect on the European designated site, either individually or in combination with other plans or projects

For those sites where potential adverse impacts are identified, either alone or in combination with other plans or projects, further assessment is necessary to determine if the proposals will have an adverse impact on the integrity of a European designated site, in view of the site's conservation objectives (i.e. the process proceeds to Stage 2).

### *1.4.2.2 Stage 2 – Habitats Regulations Assessment*

This stage requires a more in-depth evaluation of the plan or project, and the potential direct and indirect impacts of them on the integrity and interest features of the European designated site(s), alone and in-combination with other plans and projects, considering the site's structure, function and conservation objectives. Where required, mitigation or avoidance measures will be suggested.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where mitigation cannot be achieved, then alternative solutions will need to be considered (i.e. the process proceeds to Stage 3).

[7] CIEEM (2017) *Guidelines on Ecological Report Writing.* Chartered Institute of Ecology and Environmental Management, Winchester : Ecological-Report-Writing-Dec2017.pdf
[8] OPR (2021) *Appropriate Assessment Screening for Development Management* Office of the Planning Regulator : 9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf

#### *1.4.2.3 Stage 3 – Alternative Assessment*

Where adverse impacts on the integrity of Natura 2000 sites are identified, and mitigation cannot be satisfactorily implemented, alternative ways of achieving the objectives of the plan or project that avoid adverse impacts need to be considered. If none can be found, the process proceeds to Stage 4.

#### *1.4.2.4 Stage 4 – IROPI (Imperative Reasons for Overriding Public Interest)*

Where adverse impacts of a plan or project on the integrity of Natura 2000 sites are identified and no alternative solutions exist, the plan will only be allowed to progress if imperative reasons of overriding public interest (IROPI) can be demonstrated. In this case compensatory measures will be required.

The process only proceeds through each of the four stages for certain plans or projects. For example, for a plan or project, not connected with management of a site, but where no likely significant impacts are identified, the process stops at stage 1. Throughout the process, the precautionary principle must be applied, so that any uncertainties do not result in adverse impacts on a site.

The methodology follows a systematic, step-by-step process designed to evaluate whether development/maintenance works are likely to have significant effects on European Designations e.g., SACs, SPAs, in line with the provisions of the Habitats Directive. The screening process begins with a description of the proposed development and an assessment of the local site characteristics. This is followed by identifying potentially relevant Natura 2000 sites using the Source-Pathway-Receptor (S-P-R) model. The S-P-R model is used to assess whether there are any pathways through which the development could affect the conservation objectives of the identified sites. The next step involves evaluating the likely significant effects, both direct and indirect, of the proposed development on these sites, considering factors such as the size, nature, and scale of the project. If significant effects cannot be ruled out, a Stage II Habitats Regulations Assessment may be required.

### 1.4.3 Additional Sources used to Influence Habitats Regulations Assessment

In addition to the Legislative Context in section 1.3.1 and guidance outlined in section 1.3.2, guidance has been sought from the following documents for the production of this Habitats Regulations Assessment report:

1. Council of the European Commission (1992) Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities. Series L 20, pp. 7-49.[9]

[9] EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;

2. EC (2000) 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.[10]
3. European Commission (2001). 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.[11]
4. European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.[12]
5. EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence. Opinion of the commission.[13]
6. EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.[14]
7. European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.[15]
8. Department of Environment, Heritage, and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.[16]
9. National Parks and Wildlife Service (2019). Article 17: The Status of EU Protected Habitats and Species in Ireland. [17]
10. European Communities (Natural Habitats) (Amendment) Regulations 2005[18];
11. OPR Practice Note PN01: Appropriate Assessment Screening for Development Management, March 2021[19];
12. Northern Ireland Executive, Guidance for Marine Protected Area Assessments in the NI inshore area, February 2024[20];

## 1.5 Statement of Authority

**Jack Hamill:** The production of this report was undertaken by Jack Hamill. Jack is a Senior Ecologist at AVRIO Environmental Management. Jack graduated with a bachelor's degree of Science in Marine Science from the University of Ireland, Galway. Jack has experience overseeing environmental monitoring surveys in his previous roles both in Australia and Canada, he has been undertaking environmental surveys in Northern Ireland and the Republic of Ireland since 2023 including Invasive Species Surveys (ISS),

[10] EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
[11] EC (2001) 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;
[12] EC (2006) Nature and Biodiversity Cases: Ruling of the European Court of Justice, Office for Official Publications of the European Communities, Luxembourg. European Commission;
[13] EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg. European Commission;
[14] EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. Office for Official Publications of the European Communities, Luxembourg. European Commission.
[15] EC (2018). 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. European Commission.
[16] DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February 2010. Department of the Environment, Heritage and Local Government
[17] NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report.
[18] EC (1997) 2006. The European Communities (Natural Habitats) (Amendment) Regulations 2005.
[19] OPR (2021). OPR Practice Note PN01: Appropriate Assessment Screening for Development Management
[20] NIE (2024). Guidance for Marine Protected Area Assessments in the NI inshore area

Preliminary Roost Assessments (PRA), baseline ecological surveys and bat emergence/re-entry surveys on a variety of sites throughout Ireland. Jack has experience contributing to habitat assessments including JNCC Phase I Habitat Surveys and Fossitt Habitat Surveys as well as producing a range of ecological reports including Preliminary Ecological Appraisals, Invasive Species Management Plans, Habitat Regulation Assessments (HRA/AASR/NIS).

**Callum Neill:** The review of this report was undertaken by Callum Neill. Callum is a Senior Ecologist at AVRIO Environmental Management. Callum has a master's degree in marine biology from Queen's University Belfast. Callum has been undertaking environmental surveys in Northern Ireland and the Republic of Ireland since 2020 including Preliminary Ecological Appraisal (PEA), Preliminary Roost Assessments (PRA) and bat emergence/re-entry surveys on a variety of sites. Callum also has vast experience in leading intertidal surveys and at-sea/marine surveys, working for a variety of non-governmental organisations and academic institutions. Callum has experience contributing to habitat assessments including JNCC Phase I Habitat Surveys and Fossitt Habitat Surveys as well as producing a range of ecological reports including Preliminary Ecological Appraisals, Invasive Species Management Plans, Habitat Regulation Assessments (HRA/AASR/NIS).

**Fergal Maguire:** This report has been approved by Fergal Maguire. Fergal is the founder of AVRIO Environmental Management Limited and brings over 12 years of experience in environmental and ecological consultancy. He has expertise in compliance, ecology, and resource efficiency, having worked on a wide range of projects with clients from large organizations to smaller companies. He has experience contributing to Environmental Impact Assessments, Strategic Environmental Assessments, environmental licence applications (IEL, IPC, and Waste Licences), and worked with agencies such as the EPA, NIEA, SEPA, and UK Environment Agency. His experience includes managing IED-licensed facilities across Ireland, the UK, and Europe, as well as providing general consultancy in waste management, environmental compliance, and ecology. Fergal is highly skilled in producing Ecological Impact Assessments (EcIA), Habitat Regulation Assessments (HRA/AASR/NIS), Invasive Species Management Plans (ISMPs), and Construction Environmental Management Plans (CEMPs). He has served as an Ecological Clerk of Works (ECoW) for various construction projects, ensuring regulatory compliance and environmental protection. Fergal is a licensed ecologist in both the Republic of Ireland and Northern Ireland for a range of protected and priority species, including, but not limited to, bats, badger, otter, common lizard, smooth newt and priority bird species, underpinning his capability to deliver specialist ecological services across jurisdictions. Fergal has led large-scale survey projects for clients within Northern Ireland and the Republic of Ireland. His work involved conducting comprehensive ecological surveys, producing Appropriate Assessment Screening Reports and Habitat Regulation Assessments, and managing applications for derogation licenses. He collaborated closely with the NPWS and NIEA to ensure regulatory compliance, further solidifying his role as a trusted environmental consultant.

# 2. Site Characteristics

## 2.1 Desk Study

Information pertaining to the proposed site and the surrounding environment was studied and assessed prior to the completion of this assessment. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- Mammals, Amphibians and Reptiles website[21];
- Environmental Protection Agency Geographic Information System (EPAGIS)[22];
- National Biodiversity Data Centre (NBDC)[23];
- NIEA Natural Environment Map Viewer[24];
- Spatial NI[25];
- The Department of the Environment (DOE) Planning Service website[26];
- The Woodland Trust website [27];
- National Biodiversity Network (NBN) Atlas[28].

Results of the Desk Study are described in Section 2.2 below.

## 2.2 Site Overview

The site works area is located at Sea Defence Section 14C2 in Coleraine, Co. Derry, and is located approx. 3.6km northwest of Coleraine Town Centre, 6.23km southwest of Portrush Town Centre, and 19.75km northeast of Limavady Town Centre. It should also be noted that a site compound area has been proposed approx. 965m west of Sea Defence Section 14C2.

The site consists of Sea Defences to undergo remedial works, situated on the Coleraine to Derry Railway Line, between Coleraine Train Station and Castlerock Train Station. The site comprised a single railway line, which makes up part of the NI Railway Coleraine to Derry service, as well as existing Sea Defences, scrub habitats, and reed/swamp habitat,

[21] Mammals, Amphibians and Reptiles: http://www.habitas.org.uk/nimars/
[22] Environmental Protection Agency Geographic Information System: https://gis.epa.ie/EPAMaps/
[23] National Biodiversity Data Centre: www.biodiversityireland.ie
[24] NED Maps: https://gis.daera-ni.gov.uk/arcgis/apps/webappviewer/index.html?id=bb721449cb8949e7a4f90c722bd2d80b
[25] www.spatialni.gov.uk
[26] The Planning Service (2009): http://www.planningni.gov.uk/index/policy/dev_plans
[27] The Woodland Trust (2009): http://frontpage.woodland-trust.org.uk/woodsunderthreat/
[28] National Biodiversity Network (NBN) Atlas: Explore Your Area | NBN Atlas

with the Lower Bann River to the north of it. The site compound comprises a grassland field. Figure 2-1 and 2-2 illustrates the classification of habitats on-site in accordance with JNCC Phase I Habitat Classification codes.

The site works area is situated within 2km of 1-no. SAC; Bann Estuary SAC is located adjacent/partially within the Site Works Area. Bann Estuary ASSI is located adjacent/partially within the Site Works Area. There are no further European or National designations within 2km of the site works area. Farranlester Local Wildlife Site is adjacent to the south of Sea Defence Section 14C2. The site compound location is within Grange LWS; additionally, Portstewart Golf Links LWS is situated north of the site compound location by approx. 771m. The site is within Binevenagh Area of Outstanding Natural Beauty (AONB).

**Picture 1:** Scrub – Dense/Continuous (A2.1) habitat noted adjacent to the Railway Embankment

**Picture 2:** Broadleaved Parkland/Scattered trees (A3.1) within the dense scrub habitat

**Picture 3:** Poor Semi-Improved Grassland (B6) adjacent to the Railway Track within the ecological survey area, with Fence (J2.4)

**Picture 4:** Running Water (G2) – Lower River Bann noted to the north of the survey area

**Picture 5:** Swamp (Reedbed) (F1) – This habitat was noted to the southeast of the railway track

**Picture 6:** Improved Grassland (B4) present within the site works area for the Site Compound

**Picture 7:** Swamp (Reedbed) (F1) – This habitat was noted to the southeast of the railway track

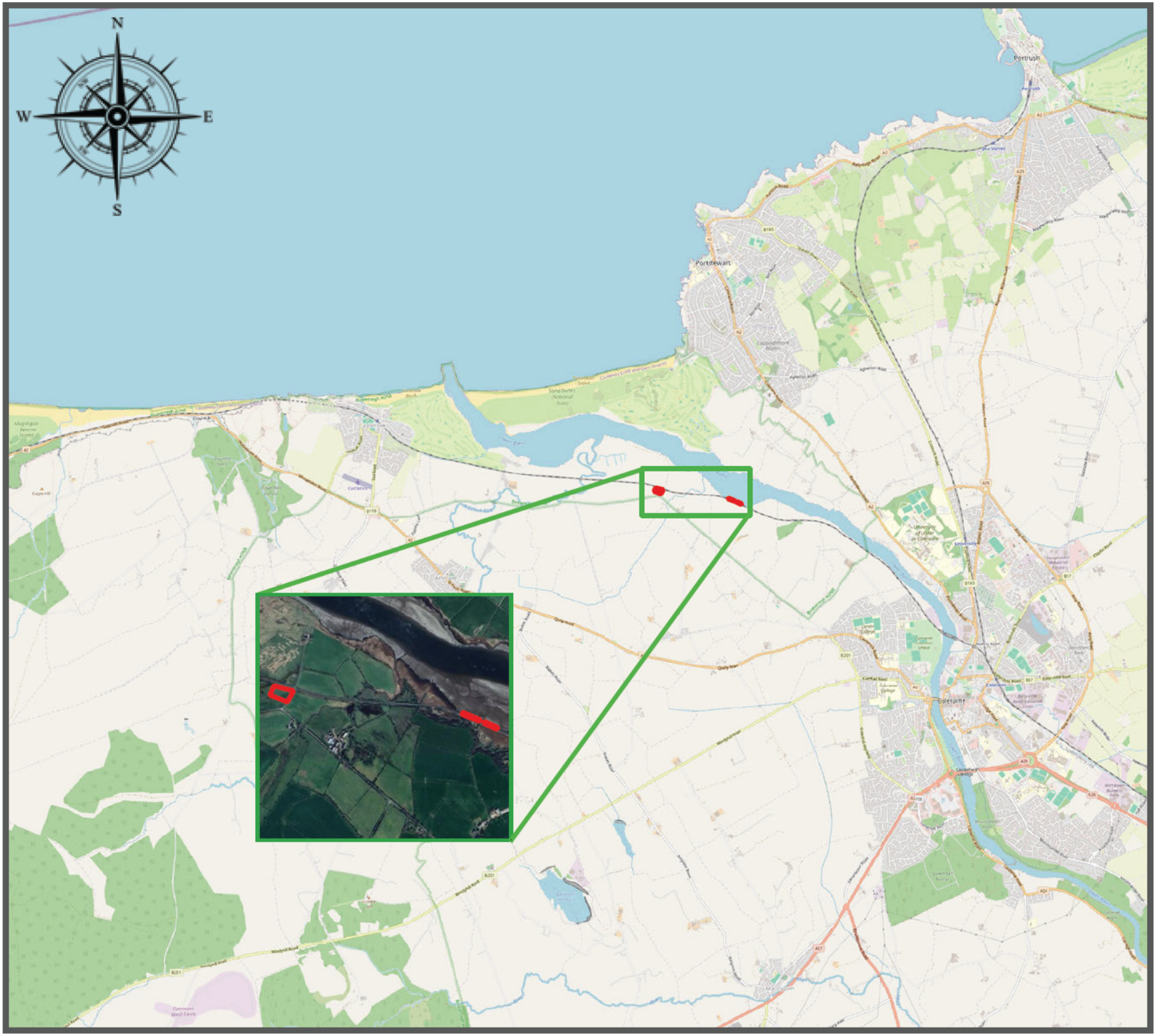
**Picture 8:** Existing Sea Defences covered, with minimal amounts of vegetation (J3.5)

**Picture 9:** Fence (J2.4) noted running along the northern boundary of the site compound

**Picture 10:** Old boat structure noted within the 50m ecological survey area (J3.6)

**Picture 11:** Railway Track, Cess, and associated Infrastructure identified throughout the ecological survey area

**Picture 12:** Invasive Species – Buddleia identified to the north of the 50m ecological survey buffer of the site compound




Legend:

Site Works Area

Project Title:

AEMP-562
Section 14C2, Coleraine, Co. Derry

Drawing Title:

Site Location Map

| Drawn By: | Checked By: |
|---|---|
| CN | FM |
| Project No: 2000562 | Drawing No: Figure 1 |
| Scale: 1/65000 | Date: 18th September 2025 |

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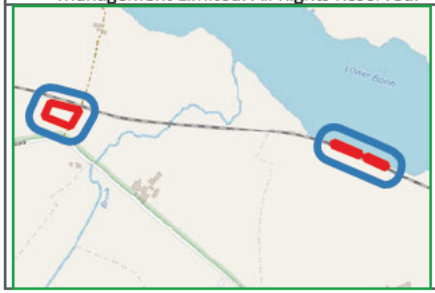


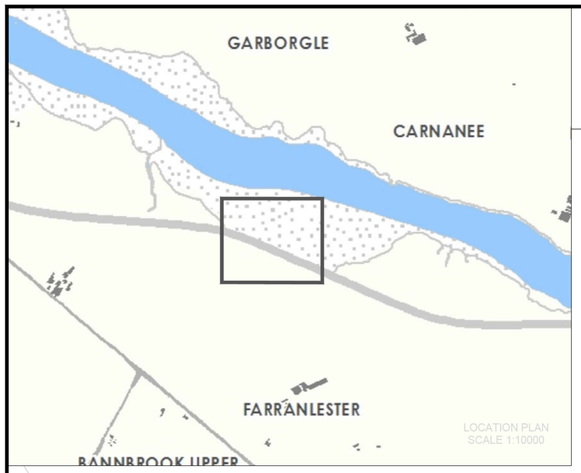
## 2.3 Characteristics of the Proposed Development

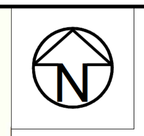
### 2.3.1 Description of the Project

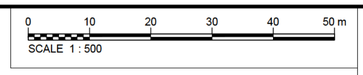
The works will involve the removal of the existing rip rap armour stone, with material reused and repurposed where feasible in the construction of the new coastal defence system, of approx. 155m. A new rip rap revetment will then be installed, consisting of a double interlocking rock layer with stones ranging from 60–300kg. The new structure will be tied into the existing grassed embankments and rip rap embankments, with the details of these tie-ins to be confirmed at the detailed design stage. Placement of rock armour will be carried out in such a way as to mitigate the risk of outflanking, with the potential need for extension of the armour to be addressed during detailed design.

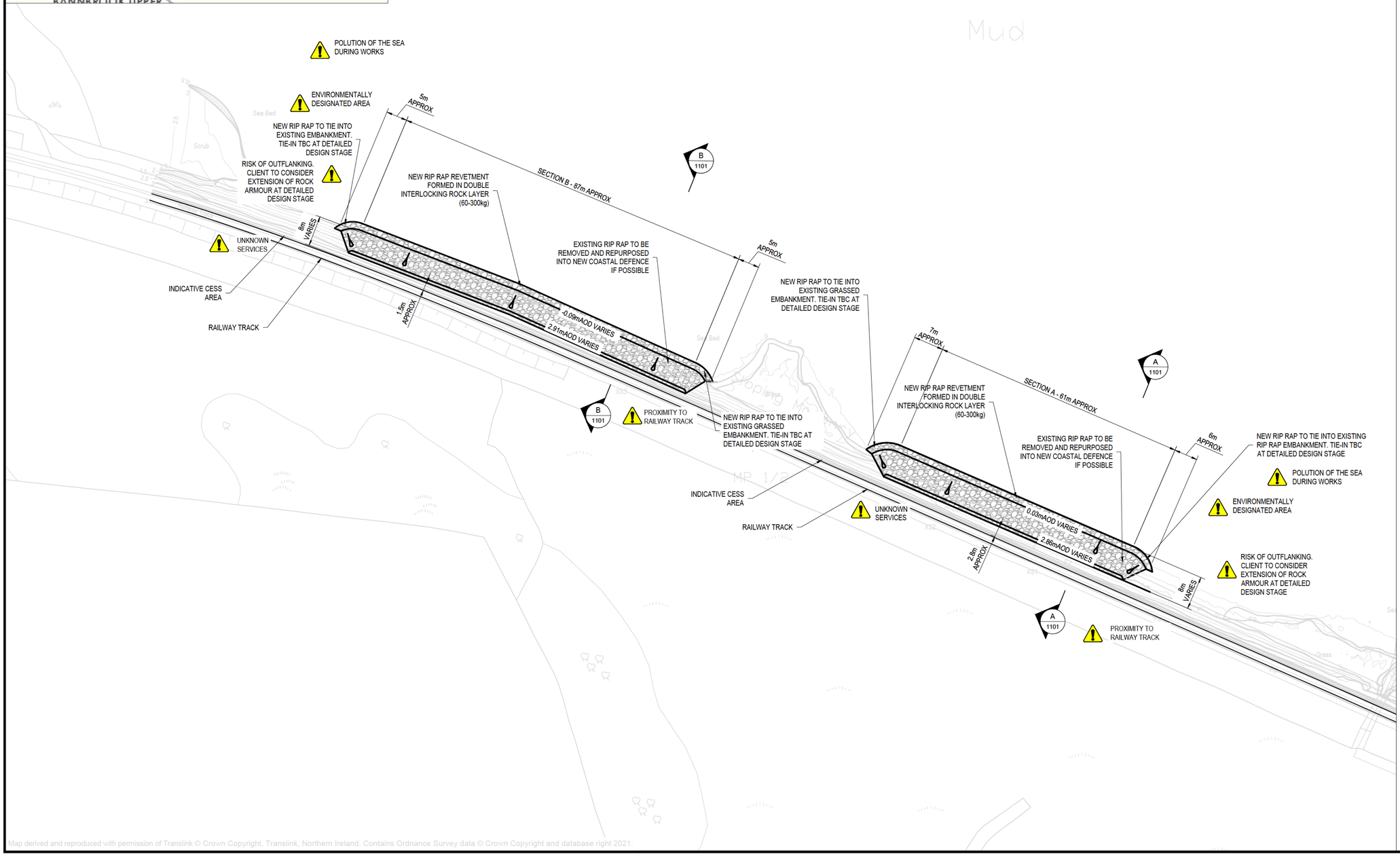
A temporary site compound will be erected within proximity of the site, in an agricultural field.

Attached Below are Site Plans indicating the Site Works involved with this Sea Defence Section 14C2.

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| Construction Risks | Public Risks | Environmental Risks |
|---|---|---|
| • Collapse of excavation/embankment during construction<br>• Unknown services<br>• Working adjacent to live railway line<br>• Working in an exposed coastal and tidal environment<br>• Movement of plant in and around sea<br>• Placement of rock armour | • Unauthorised site access | • Working adjacent to and within statutory and non-statutory designated sites<br>• Pollution hazards associated with working near sea<br>• Risk of damage to flora and fauna |

In addition to the hazards/risks normally associated with the types of work detailed on this drawing take note of the above.
It is assumed that all works detailed on this drawing will be carried out by a competent contractor working, where appropriate, to an appropriate method statement.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

General Notes

1. The co-ordinate system reference is IRENET95, based on Irish Transverse Mercator Projection. Levels are in metres above ordnance datum Belfast (mAOD) and refer to Northern Ireland 2015 geoid model.
2. Do not scale from this drawing. All dimensions must be checked/verified on site.
3. All levels must be checked in relation to the railway line with any discrepancies being passed back to the consultant. Levels and setting out should be checked by the site engineer to ensure the quoted levels are still relevant at the time of construction.
4. All works in watercourses will be carried out with care to minimise the risk of pollution adhering to guidance for pollution prevention.
5. All works planning to discharge to a watercourse or carry out works that will impact on the free flow of a watercourse will be subject to Consent to Undertake Works to a Watercourse under Schedule 6 Protection of Watercourses from the Drainage (Northern Ireland) Order 1973.

**NOT FOR CONSTRUCTION**

Services legend

No services identified through PAS128 Type D survey to interact with permanent works.
The Contractor shall locate all services prior to commencement of any works on site. Any unknown services identified in the cess shall be isolated and placed in ducts during construction.

| Rev.: | Comments | Date | | Drawn | | Designed | | Checked | | Approved | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P01 | For review and comment | 10/02/22 | | CL | | AF | | AL | | AL | |

Client Approval

- A - Approved
- B - Approved with Revisions
- C - Do Not Use

| Purpose of Issue | Status |
|---|---|
| Work in Progress | S0 |

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Translink Sea Defences

Outline Design
Asset 14C2 - 2300m beyond end of Section 14C1
General Arrangement

for

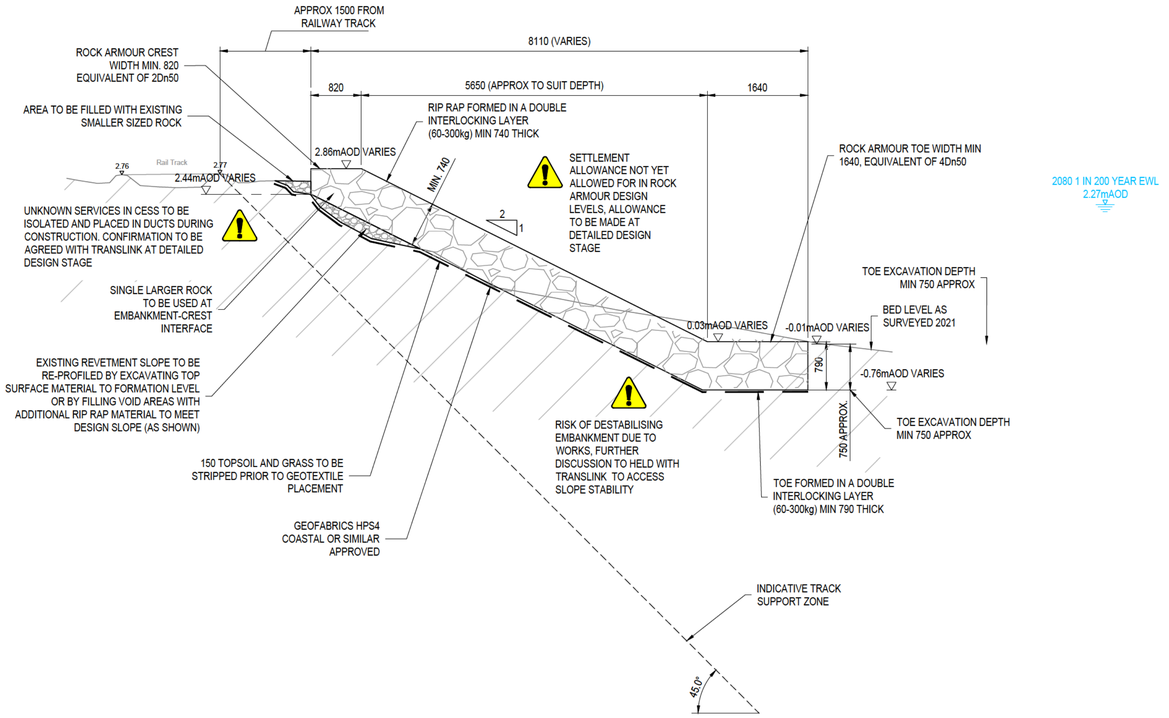
Translink



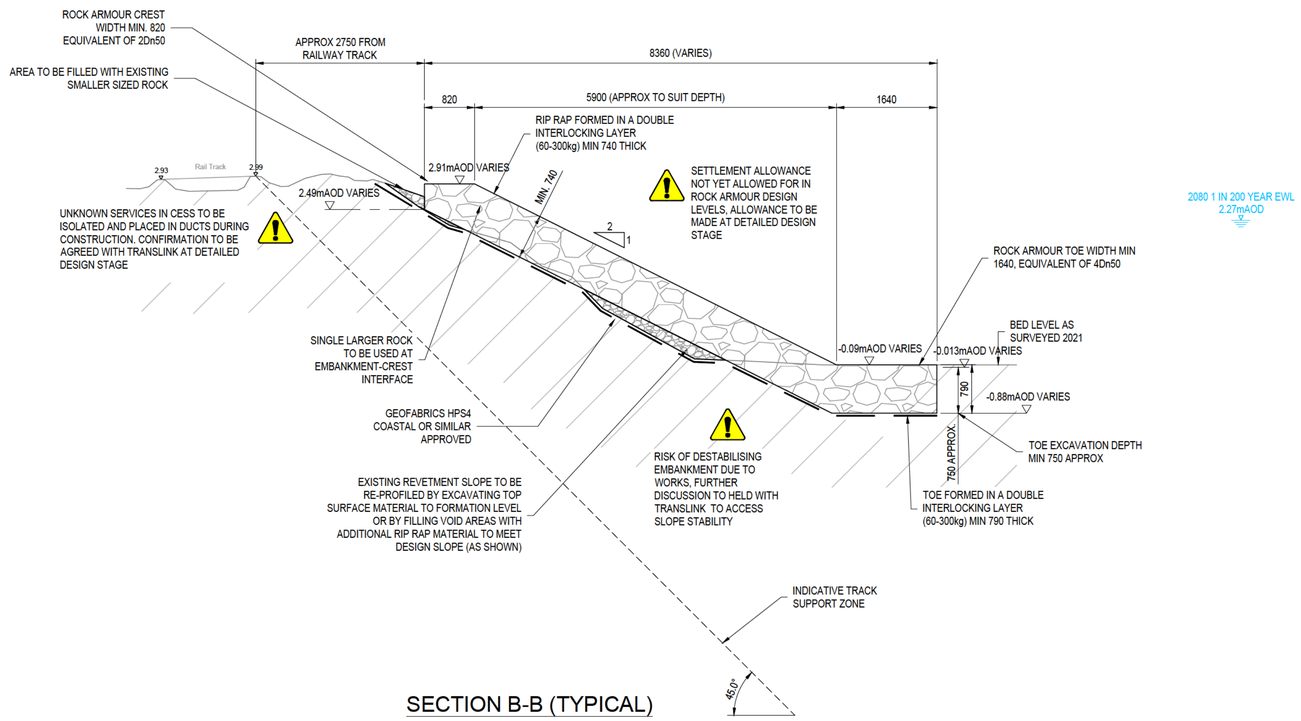
| Scale: | Drawn: | [redacted] | |
|---|---|---|---|
| 1:500 @ A1 | Designed: | [redacted] | |
| | Checked: | [redacted] | |
| | Approved: | [redacted] | 09/02/22 |

Project Reference: 2020s0837 - Translink Sea Defences

| Drawing Number: | Revision |
|---|---|
| TSD-JBAU-00-14C2-DR-C-1001-General_Arrangement | P01 |




SECTION A-A (TYPICAL)




SECTION B-B (TYPICAL)

| | | |
|---|---|---|
| • Collapse of excavation/embankment during construction<br>• Unknown services<br>• Working adjacent to live railway line<br>• Working in an exposed coastal and tidal environment<br>• Movement of plant in and around sea<br>• Placement of rock armour | • Unauthorised site access | • Working adjacent to and within statutory and non-statutory designated sites<br>• Pollution hazards associated with working near sea<br>• Risk of damage to flora and fauna |
| Construction Risks | Public Risks | Environmental Risks |

In addition to the hazards/risks normally associated with the types of work detailed on this drawing take note of the above.
It is assumed that all works detailed on this drawing will be carried out by a competent contractor working, where appropriate, to an appropriate method statement.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

General Notes

1. The co-ordinate system reference is IRENET95, based on Irish Transverse Mercator Projection. Levels are in metres above ordnance datum Belfast (mAOD) and refer to Northern Ireland 2015 geoid model.
2. Do not scale from this drawing. All dimensions must be checked/verified on site.
3. All dimensions are in milliemetres unless stated otherwise.
4. All levels must be checked in relation to the railway line with any discrepancies being passed back to the consultant. Levels and setting out should be checked by the site engineer to ensure the quoted levels are still relevant at the time of construction.
5. All works in watercourses will be carried out with care to minimise the risk of pollution adhering to guidance for pollution prevention.
6. All works planning to discharge to a watercourse or carry out works that will impact on the free flow of a watercourse will be subject to Consent to Undertake Works to a Watercourse under Schedule 6 Protection of Watercourses from the Drainage (Northern Ireland) Order 1973.

0 1 2 3 4 5 m
SCALE 1 : 50

**NOT FOR CONSTRUCTION**

| Rev.: | Comments | Date | Drawn | Designed | Checked | Approved |
|---|---|---|---|---|---|---|
| P01 | For Review and comment | 10/02/22 | CL | AF | AL | AL |

Client Approval
A - Approved
B - Approved with Revisions
C - Do Not Use

| Purpose of Issue | Status |
|---|---|
| For review and comment | S3 |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Translink Sea Defences

Outline Design
Asset 14C2 - 2300m beyond end of Section 14C1
Typical Cross Sections

for

Translink



| | | | |
|---|---|---|---|
| Scale: | 1:50 @ A1 | Drawn: | [redacted] |
| | | Designed: | [redacted] |
| | | Checked: | [redacted] |
| | | Approved: | 09/02/22 |

Project Reference: 2020s0837 - Translink Sea Defences

| Drawing Number: | Revision |
|---|---|
| TSD-JBAU-00-14C2-DR-C-1101-Typical_Cross_Section | P01 |

## 2.3.2 Description of the Baseline Ecological Environment

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities[29].

An Ecological Baseline survey was conducted by Sam McCaul BSc (Hons) on the 11th of August 2025, and the habitats present were identified in accordance with the JNCC Phase 1 Habitats Guide[30]. Plant nomenclature for vascular plants follows 'New Flora of the British Isles, while mosses and liverworts nomenclature follow 'Mosses and Liverworts of Britain and Ireland - a field guide'.

The walkover survey was designed to detect the presence, or likely presence, of a range of protected species and habitats. The walkover survey comprehensively covered the entire study area of the subject development and surrounding habitats.

### *2.3.2.1 Habitats*

Habitats located within the survey boundary of Section 14C2, and the Site Compound include:

- Scrub – Dense/Continuous (A2.1)
- Poor Semi-Improved Grassland (B6)
- Railway Track, Cess, and Associated Infrastructure
- Running Water (G2)
- Sea Wall – Sea Defence (J3.5)
- Improved Grassland (B4)
- Fence (J2.4)
- Building (J3.6)
- Swamp (Reedbed) (F1)
- Broadleaved Parkland/Scattered Trees (A3.1)

### *2.3.2.2 Assessment for Annex I Habitats & Priority Habitats/Species Habitats*

#### *Annex I Habitats*

1-no. Annex I habitat was recorded on-site and within the extended survey area to the north of the site works via DAERA's Northern Ireland Marine Map Viewer. This was:

- [1130] Estuaries

#### *NI Priority Habitat & Species List*

Following the site survey and an assessment of the NI Priority Habitat and Species List, Swamp (Reedbed) habitat was identified within the ecological survey area, recorded to Phase I JNCC standard and shown in Figure 2-1. This habitat is linked to Reedbed, which is recognised as a UKBAP and Northern Ireland Priority Habitat.

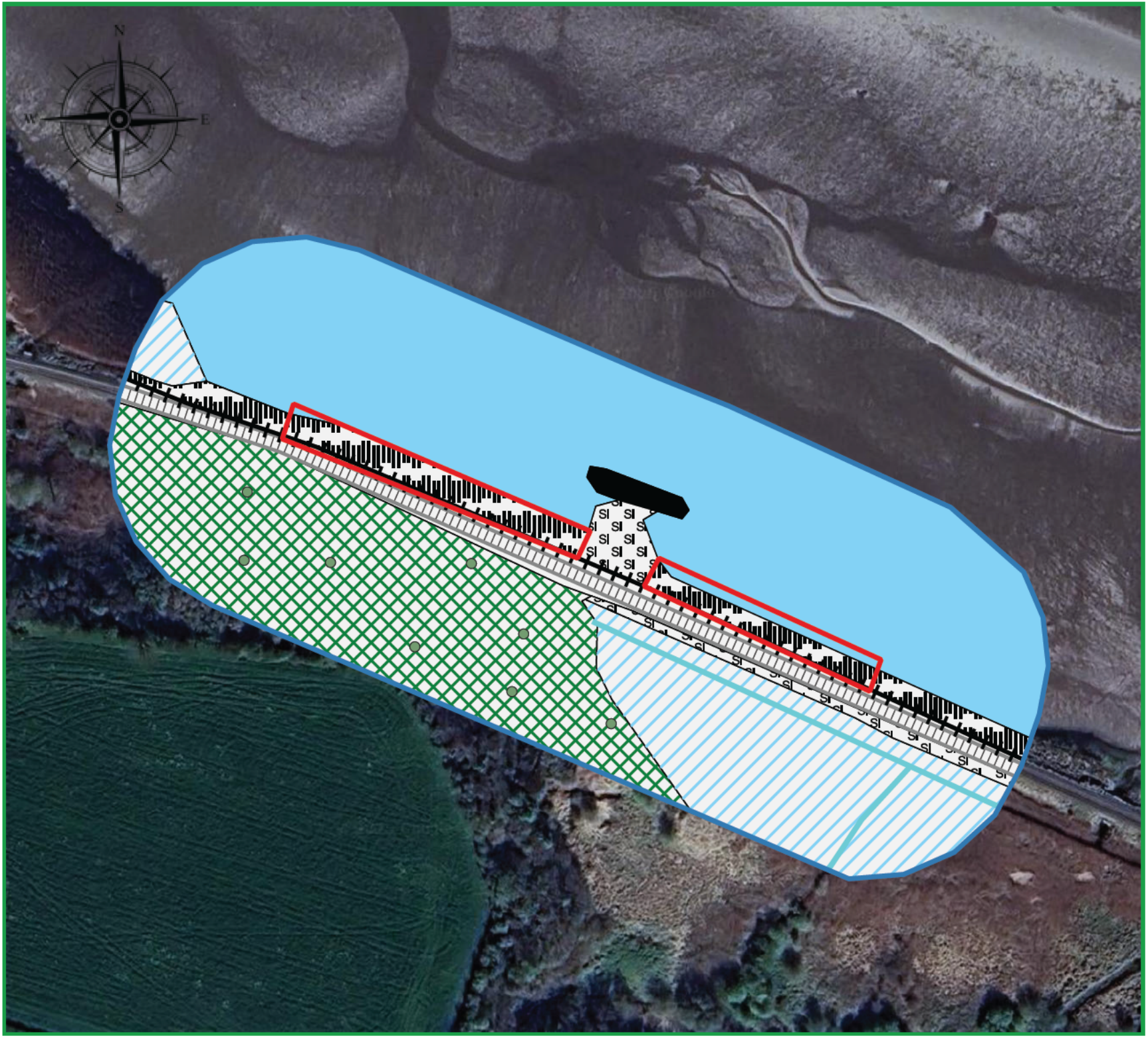
[29] CIEEM, 2018, Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine;
[30] JNCC (2010): Handbook for Phase 1 Habitat Survey - A technique for Environmental Audit. Peterborough

### *2.3.2.3 Invasive Species (Flora) Survey*

Throughout the habitat survey, the site was searched for invasive weed species, focusing on those species listed under Schedule 9 of the Wildlife (Northern Ireland) Order 1985[31].

Buddleia (*Buddleja davidii*) was identified within the 50m ecological survey buffer at IGR: C 80995 35117, of the site compound location. Buddleia is not listed as a Schedule 9 Invasive Species of the Wildlife (Northern Ireland) Order 1985; however, it is classified as an invasive species by DAERA on "Invasive Species – Northern Ireland[32]". The location of the species falls outwith the site works area, and therefore, will not be considered further.

[31] The Wildlife (Northern Ireland) Order 1985: https://www.legislation.gov.uk/nisi/1985/171/contents
[32] DAERA Invasive Species – Northern Ireland: Invasive Species Northern Ireland (invasivespeciesni.co.uk)




Legend:

- Site Works Area- 14C2
- 50m Ecological Survey Buffer
- A2.1- Scrub- dense/continuous
- B6- Poor semi-improved grassland
- G2- River Bann
- F1- Swamp
- J3.5- Sea Defence
- J3.6- Buildings
- J2.4- Fence
- G2- Running Water
- Railway Track
- A3.1- Broadleaved Scattered Trees

Project Title:
AEMP-562
Sea Defence 14C2, Coleraine, Co. Derry

Drawing Title:
JNCC Phase I Classification

| Drawn By: | Checked By: |
|---|---|
| CN | FM |
| Project No: 2000562 | Drawing No: Figure 2-1 |
| Scale: 1/1500 | Date: 2nd September 2025 |

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Legend:

- Site Works Area- 14C2
- 50m Ecological Survey Buffer
- B4- Improved grassland
- B6- Poor semi-improved grassland
- J2.4- Fence

Project Title:
AEMP-562
Sea Defence 14C2, Coleraine, Co. Derry

Drawing Title:
JNCC Phase I Classification

| Drawn By: | Checked By: |
|---|---|
| CN | FM |
| Project No: 2000562 | Drawing No: Figure 2-2 |
| Scale: 1/1500 | Date: 2nd September 2025 |

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### *2.3.2.4 Protected Species (Fauna) Survey*

#### 2.3.2.4.1 Bat Roost Assessment for Trees

A Ground Level Tree Assessment (GLTA) for Bats was undertaken of all trees on-site and within the 50m ecological buffer, surrounding the application site. No trees within the 50m ecological survey buffer were assessed as having potential for roosting Bats.

#### 2.3.2.4.2 Bat Roost Assessment for Buildings

A Preliminary Roost Assessment (PRA) of Buildings and structures on-site and the extended survey area was undertaken by AVRIO during the Daytime Bat Walkover (DBW) survey.

The boat/dock structure could not be assessed due to access restrictions. Works will not take place on this structure and therefore no further survey work is required.

#### 2.3.2.4.3 Roost Assessment for Walls

A Preliminary Roost Assessment (PRA) of Buildings and structures on-site and the extended survey area was undertaken by AVRIO during the Daytime Bat Walkover (DBW) survey. No walls within the 50m ecological survey buffer were assessed as having potential for roosting Bats.

#### 2.3.2.4.4 Bat Habitat Suitability

The site was deemed as being of low suitability for commuting and foraging Bats. The survey area comprised several linear features e.g., River Bann, which may form part of ecological corridors for Bats to other suitable habitats in the wider environs, as well as offering areas of foraging resources e.g., Dense Scrub. Several Bat species have still recorded within 2/5km of the site works area (NBDC Maps, NBN Atlas), namely, Common Pipistrelles, Daubenton's Bats, Nathusius Pipistrelles, Soprano Pipistrelles, and Leisler's Bats. Recommendations have been provided below to mitigate any potential adverse impacts to commuting and foraging Bats. General mitigation measures and good practice guidelines recommended in the Preliminary Ecological Appraisal produced for this application site – 'AEMP-562 (A167-T16)' should be implemented for the safeguarding of habitats suitable for commuting and foraging bats during construction works. This includes measures for lighting management, vegetation retention, and control of noise and vibrations to minimize disturbance to local Bat populations.

#### 2.3.2.4.5 Badger *(Meles meles)* Survey

No direct evidence of Badger was identified during the survey. Habitats within the 50m ecological survey area and extended environs were deemed of moderate suitability for Badger. Sett Creation habitat was present within the 50m ecological survey buffer at both Section 14C2 and the Site Compound location e.g., Dense Scrub habitat, with this also providing a foraging resource. Site Works are outwith these areas and will not impact these habitats. There are previous observation records of Badger within 5km of the site works area (NBN Atlas), most recently on 28/02/2024. Badgers are a highly mobile species and may use the site works area for commuting purposes, to suitable habitats within the 50m ecological survey buffer or wider environs. General mitigation measures recommended in the Preliminary Ecological Appraisal produced for this application site – 'AEMP-562 (A167-T16)' should be implemented for the safeguarding of habitats suitable for Badgers during construction works.

#### 2.3.2.4.5 Breeding Bird Habitat Suitability Assessment

No evidence of Breeding Birds was identified within the 50m ecological survey area. Breeding Birds may utilise the Scrub, Reedbed, and Scattered Tree habitats within the 50m ecological survey buffer for nesting purposes. Should the removal of vegetation be required as part of site works, general recommendations and mitigation have been outlined below to negate any impact to breeding Birds as a result of site works.

#### 2.3.2.4.6 Otter *(Lutra lutra)* Survey

No direct evidence of Otter was identified during the survey. The Lower River Bann to the north of the 50m ecological survey area at Section 14C2 was assessed as optimal for Otter, although there was no suitable bank space within the site works area for holt creation; Otter is known to utilise the River Bann[33], of which works will be directly within (re-profiling of slope below sea bed level for installation of Rock Armour). Additionally, reed beds offer suitable locations for resting spots e.g., couches, although works will not directly be carried out on this habitat; however, indirect impacts may arise. Recommendations are provided to negate any impacts to suitable habitat for Otter as a result of site works. Additionally, Otter has been previously recorded within 5km of the site works area (NBN Atlas), most recently on 01/02/2025. Otter may utilise both the site works area and ecological survey area at Section 14C2 and the Site Compound location for commuting purposes between suitable habitats in the wider environs.

General mitigation measures recommended in the Preliminary Ecological Appraisal produced for this application site – 'AEMP-562 (A167-T16)' should be implemented for the safeguarding of habitats suitable for Otters during construction works.

#### 2.3.2.4.7 Pine Marten *(Martes martes)* Habitat Suitability Assessment

The Site Compound location lacked suitable habitat for any purpose for Pine Marten. At Section 14C2, the site lacked suitable den creation habitat, with minimal foraging resources available e.g., dense scrub. A small area of woodland habitat is present within the wider environs (southeast of the site), of which the site provides some commuting potential to. Habitats deemed of some suitability for Pine Marten e.g., dense scrub is out with the site works area and will not be impacted by works, and are widespread in the surrounding environs, with the site having no unique value for Pine Marten. Although the species has previously been noted within 5km of the site works area (NBN Atlas), most recently on 30/04/2024, it is highly unlikely that significant impacts to Pine Marten will arise from the proposed works.

#### 2.3.2.4.8 Red Squirrel (*Sciurus vulgaris*) Habitat Suitability Assessment

The Site Compound location lacked suitable habitat for any purpose. At Section 14C2, the site lacked suitable drey creation habitat; a small area of woodland habitat is present within the wider environs (southeast of the site), of which the site provides very limited commuting potential to. These limited commuting habitats are outwith the scope of

[33] Otters at River Bann: Lutra lutra Otter :: Northern Ireland's Priority Species :: (habitas.org.uk)

works and will not be impacted. Additionally, the species has not recently been noted within proximity (2km/5km) of the site with the latest record on 03/01/1969 (NBDC Maps). It is highly unlikely that significant impacts to Red Squirrel will arise from the proposed works. Red Squirrel will not be considered further in this report.

#### 2.3.2.4.9 Smooth Newt *(Lissotriton vulgaris)* Habitat Suitability Assessment

At the site compound, no suitable habitat was noted for Smooth Newt was noted; there was a lack of watercourses/waterbodies for breeding and additionally no suitable terrestrial habitat.

At Section 14C2, the Lower Bann River was assessed as being sub-optimal for Smooth Newt as it was fast-flowing, hindering its potential for use in egg-laying purposes. The other watercourses within the 50m ecological survey area (Drainage Ditches) could not be fully assessed due to the high volumes of reeds impeding vision, or within the reedbeds/swamp habitat itself; these habitats may offer suitability for Smooth Newt. Additionally, some suitable terrestrial habitat is present e.g., Dense Scrub. Works will not occur in these habitats and as such no direct impacts are expected, and as such no impacts are anticipated. Whilst Smooth Newt has been previously noted within 5km of the site works area (NBN Atlas), most recently on 01/10/2022, it is highly unlikely that significant impacts are anticipated on Smooth Newt as a result of the works.

#### 2.3.2.4.10 Butterfly Habitat Suitability Assessment

At the site compound, the improved grassland field was of low species diversity and lacked suitable swards for Butterfly foraging. It did not contain suitable ecological features including wet heath and grassy slopes that could provide habitat connectivity.

At Section 14C2, linear railway corridors offer suitable commuting habitat for Butterflies e.g., grassland with varying sward heights, as well as intermittent shaded areas with dense scrub. The scrub itself, which comprised European Bramble, may offer a suitable foraging resource when in flower. Additionally, watercourse bankside habitats within the wider survey area may offer suitable habitat for Butterflies. Suitable habitats such as Dense Scrub are outwith the site works area and will not be modified/removed by site works, and additionally linear features such as the Railway Track will only be temporarily disturbed.

Additionally, no evidence of Annex II Marsh Fritillary was noted during the survey, or evidence of larvae foraging resource Devils-Bit Scabious. On top of this, the species has not recently been noted within proximity (2km/5km) of the site with the latest record on 31/12/1999 (NBDC Maps). It is highly unlikely that significant impacts to Butterfly, including Marsh Fritillary, will arise from the proposed works.

#### 2.3.2.4.11 Common Lizard *(Zootoca vivipara)* Habitat Suitability Assessment

At Section 14C2, the Railway Track and its associated features were deemed as being of moderate suitability for Common Lizards, as the species is known to utilise these for basking purposes[34]. As well as this, the Dense Scrub habitat was deemed suitability for use by the species as it can offer refuge to Common Lizard from potential predators. Similarly, areas of grassland adjacent to dense scrub at the Site Compound location were assessed as low suitability for basking purposes.

The development comprises the installation of Sea Defences, with temporary disturbance to the Railway Track. Railway embankment is widespread in the surrounding environs, and the temporary disturbance of a small section of this habitat will not impact the connectivity or quality of the habitat; it should also be noted that the railway track experiences frequent disturbance due to the passage of trains. Additionally, other suitable habitats such as Dense Scrub are outwith the site works area and will not be modified/removed by site works. Common Lizard has also not been recorded within 2km or 5km of the site works area (NBDC Maps/NBN Atlas). Common Lizard will not be considered further in this report.

#### 2.3.2.4.12 Fisheries Habitat Suitability Assessment

At the site compound, no suitable habitat for Fisheries was noted; there was a lack of watercourses/waterbodies present.

At Section 14C2, the Lower Bann River was assessed as being optimal for Fisheries, compromising suitable commuting and foraging habitat as well as having wider connections to the Atlantic Ocean; this habitat is hydrologically connected to the site works area. Works will involve re-profiling of the existing revetment slope below seabed level; this will also involve taking substrate from the river channel. As works will involve re-profiling of the existing revetment slope below seabed level, it is recommended that consultation is undertaken with DAERA to determine if a Licence under Section 48 of the Fisheries Act (Northern Ireland) 1966: For permission to disturb or remove materials from the bed, bank, or shore of any watercourse that may impact fisheries interests, is required. Additionally, mitigation measures recommended in the Preliminary Ecological Appraisal produced for this application site – 'AEMP-562 (A167-T16)' should be implemented for the safeguarding of habitats suitable for Fisheries during construction works.

#### 2.3.2.4.13 Marine Mammal Habitat Suitability Assessment

At Section 14C2, the Lower Bann River was assessed as being optimal for Marine Mammals, compromising suitable commuting and foraging habitat as well as having wider connections to the Atlantic Ocean; this habitat is hydrologically connected to the site works area. To negate indirect impacts to Marine Mammals i.e., through increased pollution to suitable habitat, site works should follow GPP5: Works and maintenance in or near water within the Construction Environmental Management Plan (CEMP), to mitigate impacts from the construction phase.

[34] The Herpetological Society of Ireland: https://thehsi.org/native-reptiles-and-amphibians/common-lizard/

# 3. Establishment of a Source-Pathway-Receptor Model

## 3.1 Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Impact of the proposed development:

- The most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the DAERA website[35] and the NIEA Map Viewer[36] on the 17th of September 2025. These datasets were utilised to identify European Sites that could feasibly be affected by the development works;
- The assessment was completed with reference to the Office of the Planning Regulator 2021 "OPR Practice Note – PN01: Appropriate Assessment Screening for Development Management", aiming to establish a "Source-Pathway-Receptor" model and if likely significant effects are anticipated via this pathway.
- The Zone of Influence was determined by identifying plausible pathway distances from the source, by considering the scope and scale of works. This is assessed on a site-by-site basis.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, 'Assessing Connectivity with Special Protection Areas (SPA)' (2016) was consulted[37]. This document provides guidance in relation to the identification of connectivity between proposed developments and Special Protection Areas. The guidance considers the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species that are frequently encountered when considering plans and projects;
- The assessment considers any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this screening assessment;
- The site synopses and conservation objectives, as per the appropriate datasets, were consulted and reviewed when preparing this report (17th of September 2025).
- Each European Designations was assessed on an individual basis, as well as each Qualifying Interest. This report summarises assessments undertaken by AVRIO Environmental Management for this Habitat Regulation Assessment Report.

Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Impact, and further assessment is required.

[35] DAERA Protected Site Synopses and maps available on Protected areas search | DAERA (daera-ni.gov.uk)
[36] NIEA Map Viewer: NIEA Natural Environment Map Viewer
[37] Scottish Natural Heritage (SNH) (July 2013) Assessing Connectivity with Special Protection Areas (SPA);

# 3.2 SPR Model – Source

## 3.2.1 Scope of Works

The works will involve the removal of the existing rip rap armour stone, with material reused and repurposed where feasible in the construction of the new coastal defence system, of approx. 155m. A new rip rap revetment will then be installed, consisting of a double interlocking rock layer with stones ranging from 60–300kg. The new structure will be tied into the existing grassed embankments and rip rap embankments, with the details of these tie-ins to be confirmed at the detailed design stage. Placement of rock armour will be carried out in such a way as to mitigate the risk of outflanking, with the potential need for extension of the armour to be addressed during detailed design.

A temporary site compound will be erected within proximity of the site, in an agricultural field; access to the site will be via the Railway track corridor.

## 3.2.2 Potential Sources of Impact

### *3.2.2.1 Construction Phase*

During the construction phase, the works will involve removal of the existing rip rap armour stone, installation of new rock armour, and establishment of a temporary site compound. These activities will result in direct land take, with the potential for disturbance or damage to adjacent habitats from machinery access, storage of materials, and movement of vehicles.

Construction activities will generate noise, vibration, and visual disturbance associated with plant operation, vehicle movements, and stone placement. Lighting may also be present during certain periods of the works. These activities may result in temporary disturbance to species using the area.

The removal and placement of rock armour will release sediments into the water column, causing increased turbidity and deposition. There is also a risk of pollution from accidental spills of fuel, oil, or hydraulic fluids, as well as from construction materials such as concrete washout.

Works have the potential to cause temporary changes to local hydrodynamic and geomorphological conditions, including short-term changes in water flows and areas of scour or erosion at the footprint of the works. Air quality impacts may arise from dust generated by soil handling and stone movement, and from emissions associated with construction plant and vehicles.

Waste streams will be produced during construction, including unsuitable rock material and general construction debris. Handling, storage, and re-use of rock armour also introduces the potential for surface water runoff. The works carry an additional risk of introducing or spreading invasive non-native species through construction machinery, rock material, or compound operations.

#### *3.2.2.2 Operational Phase*

Given the nature and scope of the proposed works, no operational phase impacts are anticipated. As such, once construction activities are completed, Section 14C2 will return to its existing operational state, and no new or additional operational impacts are expected.

#### *3.2.2.3 Decommissioning Phase*

As the development on-site is considered to be permanent, there is no envisioned decommissioning stage of the project. Therefore, no effects are anticipated with regard to decommissioning activities for the application site. The carrying out of demolition or maintenance activities on the site is anticipated to result in comparable disturbances to those outlined in earlier sections relating to the construction phase of the project.

## 3.3 SPR Model – Pathway

### 3.3.1 Surface Water Pathway

Section 14C2 is situated within the Lower Bann (UKGBN8NB014) coastal Interbasin waterbody; the site compound location is situated within Bann Brook (UKGBNI1NB030301071) river waterbody. The site is entirely encompassed within the Lower Neagh Bann catchment.

Within the redline boundary of 14C2, surface water will discharge directly into the Lower River Bann, discharging into the Atlantic Ocean at the mouth of Bann Estuary. 14C2 is adjacent to Bann Estuary SAC and therefore has been screened in. Additionally, upon discharge into the Atlantic Ocean, pollutants may reach Magilligan SAC (6.9km away at closest point) and Skerries and Causeway SAC (7.5km away at closest point).

Additionally, for the site compound, a small watercourse is present within close proximity of the intended boundary to the northwest. Pollutants from the site may runoff to this watercourse, which flows into Bann Brook, and further the Lower River Bann, connecting with the aforementioned European Designations.

Alternative European designations were also assessed, particularly those with Marine Mammal qualifying interests, such as pinnipeds or cetaceans; Grey Seals (*Halichoerus grypus*) [38] and several cetacean species [39] are known to forage or travel up to 100 km. However, the Source-Pathway-Receptor model was not applicable to these SACs due to the substantial distance from the development site to the designated sites. Consequently, potential effects on Marine Mammal QIs from these designations are limited to negligible reduction in quality of foraging grounds as a result of surface water pollutants and/or sediment degrading habitats or prey species. Given the extensive availability of suitable foraging habitats in the wider area, any impact on these QIs is deemed insignificant, and these European designations were not further considered.

**Bann Estuary SAC, Magilligan SAC, and Skerries and Causeway SAC will be considered for further assessment for Surface Water Pathways.**

[38] NatureScot – Scotland's Natural Agency: Seals | NatureScot
[39] Irish Whale and Dolphin Group (IWDG): Irish Whale and Dolphin Group

### 3.3.2 Groundwater Pathway

Geological Survey Ireland states that groundwater bodies are delineated based on the continuity of flow within ecosystems and the capacity for environmental impacts on surface ecosystems[40]. Both 14C2 and the Site Compound are situated on the Coleraine-Kilrea Groundwater Body (GWB), a moderate productivity fracture flow aquifer. The GWB is located between Lough Neagh and the coast, north of Coleraine; it comprises the Lower Bann Catchment with the main river draining northwards. The bedrock is dominantly comprised of Palaeogene basalt. In the east of the body two areas of Oligocene clays and lignite occur. On the western margin a small area of Dalradian basement and Carboniferous conglomerates/sandstones (Barony Glen Formation) occur. Flow pathways are considered to be short (hundreds of metres) with flow mainly following topography. Discharge will be mainly to local surface water networks.

Works at Section 14C2 is situated adjacent to the Lower River Bann itself. Given the proximity to open water, and the absence of any works likely to penetrate into subsurface groundwater systems, it is considered that there is no realistic potential for impacts to arise via groundwater connectivity. As such, no groundwater pathways from Section 14C2 will be considered.

At the site compound, pollutants may discharge into the GWB and discharge into the small watercourse present within close proximity of the intended boundary to the northwest. Discharged pollutants would then flow into Bann Brook and further the Lower River Bann. Alternatively, pollutants within the GWB may discharge directly into the Lower River Bann itself. Bann Estuary SAC screens in for further assessment. Additionally, upon discharge into the Atlantic Ocean, pollutants may reach Magilligan SAC and Skerries and Causeway SAC. Therefore, Bann Estuary SAC, Magilligan SAC, and Skerries and Causeway SAC will be considered further.

No other European Designations were identified within maximum flow pathways of the GWB.

**Bann Estuary SAC, Magilligan SAC, and Skerries and Causeway SAC will be considered for further assessment for Groundwater Pathways.**

### 3.3.3 Land & Air Pathways

#### *3.3.3.1 Land Pathways*

Distance Measurements (metres) from European Designations within close proximity to the development were calculated, utilising NIEA Map Viewer[41].

Bann Estuary SAC is situated adjacent to 14C2. Given this, there is a direct land pathway from the development site to the aforementioned European designated sites.

**Bann Estuary SAC will be considered for further assessment for Land Pathways.**

[40] Water Framework Directive (WFD) – Approach to Delineation of Groundwater Bodies: Approach to Delineation of Groundwater Bodies
[41] NIEA Map Viewer: NIEA Natural Environment Map Viewer

### *3.3.3.2 Air Pathways*

#### 3.3.3.2.1 Noise

BS 5228-1:2009+A1:2014 describes that noise impacts within 50m to 300m of a receptor are significant depending on the equipment and activities. Beyond this, noise attenuation due to distance, barriers, and terrain often reduces the impact. Noise levels decrease with distance due to geometric spreading and environmental factors. For a point source, the attenuation reduces by approximately 6db for every doubling of distance. For instance, at 10m from the source, the baseline noise could be 85dB for a specific machine; at 20m from the source, it would be 79dB, and at 40m from the source, it would be 73dB[42].

To understand the disturbance caused by noise, it is essential to understand the baseline noise conditions. The development is situated within a rural area (55dB[43]); small residential areas are present. Smaller local roads present throughout the remainder of the locality (Passenger Car at 65mph – 70dB[44]), which would raise the ambient noise.

It is important to clarify the extent of the proposed development works, the scope of machinery/tools to be used, as well as the duration of disturbance. The proposed works comprise maintenance and repair works to Sea Defences. These works support operational requirements and improve infrastructure for public health and safety.

Based on this, potential sources of noise from the proposed works may include:

- Use of Heavy Machinery e.g., Excavators (typically 85dB at 50ft distance), RRVs
- Hand-held Power Tools (maximum of 120dB at source[45])
- Transportation of Equipment and Personnel – Machinery as mentioned above, as well as increased traffic to a site
- Site establishment and dismantling of compounds.

At the source, a sporadic use of a Power Tool for maintenance works will exert a sound level of 120dB; after review of the works, this is likely the source of greatest source of noise disturbance. Using the distance calculation outlined in BS 5228-1, a 120dB point noise from an excavator would require a distance of 512m to achieve ambient noise levels less than usual levels (approx. 55dB). In this case, to account for potential variations in tool usage for site works, the precautionary principle has been applied to add an additional buffer of 10%, therefore determining a Zone of Influence of approx. 565m.

Bann Estuary SAC is within this Zone of Influence for these works, situated adjacent to Section 14C2 and within ZOI for the site compound.

**Bann Estuary SAC will be considered for further assessment for Noise Pathways.**

[42] BSI (British Standard Institution) (2014). BS 5228-1:2009+A1:2104 – Code of Practice for Noise and Vibrations Control on Construction and Open Sites
[43] IAC Acoustics: Comparative Examples of Noise Levels: Comparative Examples of Noise Levels - IAC Acoustics
[44] IAC Acoustics: Comparative Examples of Noise Levels: Comparative Examples of Noise Levels - IAC Acoustics
[45] IAC Acoustics: Comparative Examples of Noise Levels: Comparative Examples of Noise Levels - IAC Acoustics

#### 3.3.3.2.2 Dust

Guidance on distances for the Zone of Influence was taken from guidelines from the Institute of Air Quality Management (IAQM)'s "Guidance on the Assessment of Dust from Demolition and Construction". This states that an Ecological Receptor via dust pollution is present if it is within 50m of the site boundary or 50m of routes used by construction vehicles on public highways, extending up to 500m from site entrance.

Bann Estuary SAC is within this Zone of Influence, situated adjacent to Section 14C2 and within ZOI for the site compound.

**Bann Estuary SAC will be considered for further assessment for Dust Pathways.**

## 3.4 SPR Model – Receptor

The site is connected to 3-no. European Designations via the aforementioned pathways. These are:

- [UK0030084] Bann Estuary SAC
- [UK0030383] Skerries and Causeway SAC
- [UK0016613] Magilligan SAC

**Table 3-1**: Summary of Screened-in European Designations and S-P-R model establishment for Pathways

| European Designated Site | Surface Water | Groundwater | Land | Air (Noise) | Air (Dust) |
|---|---|---|---|---|---|
| [UK0030084] Bann Estuary SAC | | | | | |
| [UK0030383] Skerries and Causeway SAC | | | | | |
| [UK0016613] Magilligan SAC | | | | | |

KEY: RED = S-P-R model established for designated site; GREEN = Absence of S-P-R Model.

A source-pathway-receptor model has been established to these designations at site level. However, individual qualifying interests (QI) associated with these sites may or may not be viable receptors to impacts via the above pathways. S-P-R connections to individual qualifying interests are outlined in Table 3-2 below. Descriptions of S-P-R connections to QIs are provided where present for screened-in pathways as per the above table. Only pathways for which the QI is a viable receptor are assessed.

**Table 3-2**: Assessment of Qualifying Interests for Lough Foyle SPA and Lough Foyle RAMSAR Site

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| **[UK0030084] Bann Estuary SAC** | | | | |
| [2110] Embryonic Shifting Dunes | Embryonic shifting dunes are low sand mounds occurring between the high tide mark and more inland habitats. They are dynamic habitats subject to windblown sand and natural erosion processes and hence suspectable to removal by storms or high tides. | Yes<br>QI is a potential receptor to SW, GW, Land, and Dust Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br>Given the nature of this QI, at times of high tide, it is a receptor to the pollution pathways via surface water from the application site.<br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br>The QI is not located within the footprint of the site works are at 14C2 or the site compound. As such, it screens out for land pathways.<br>The extent of this QI is not mapped by DAERA. Given this, a precautionary principle has been applied, and as such the QI will be assessed further for dust.<br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Yes<br>Surface Water<br>Groundwater<br>Dust |
| [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) | These are actively-building dunes, found in areas receiving large quantities of blown sand (potentially due to presence of railway track, sand can accumulate in higher abundance). This provides ideal conditions for the growth of sand- | Yes<br>QI is a potential receptor to SW, GW, Land, and Dust Pathways. | As this QI occurs above the high-tide mark, surface water pathways to this QI are not tangible.<br>Additionally, for groundwater pathways, pollutants within the GWB will follow a similar pathway to surface water once they have discharged. As such, a groundwater pathway to this QI is not viable.<br>The QI is not located within the footprint of the site works are at 14C2 or the site compound. As such, it screens out for land pathways.<br>The extent of this QI is not mapped by DAERA. Given this, a precautionary principle has been applied, and as such the QI will be assessed further for dust. | Yes<br>Dust |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | binding marram grass. These form further inland than Embryonic shifting dunes. | | **Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | |
| [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) | This habitat is relatively sheltered with sand mobility greatly reduced compared to other dune habitats and has developed a closed carpet of vegetation. The vegetation is species-rich, with exact nature depending on the grazing regime, degree of stability, and amount of lime in sand. It forms further inland than [2110] and [2120]. | Yes<br>QI is a potential receptor to SW, GW, Land, and Dust Pathways. | As this QI occurs above the high-tide mark, surface water pathways to this QI are not tangible.<br>Additionally, for groundwater pathways, pollutants within the GWB will follow a similar pathway to surface water once they have discharged. As such, a groundwater pathway to this QI is not viable.<br>The QI is not located within the footprint of the site works are at 14C2 or the site compound. As such, it screens out for land pathways.<br>The extent of this QI is not mapped by DAERA. Given this, a precautionary principle has been applied, and as such the QI will be assessed further for dust.<br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Yes<br>Dust |
| [1330] Atlantic salt meadows *(Glauco Puccinellietalia maritimae)* | Atlantic Salt Meadows contain several distinctive zones that are related to elevation and submergence frequency; the lowest part along the tidal zone is dominated by Common Seagrass. The mid-zone is transitional into the upper zone. | Yes<br>QI is a potential receptor to SW, GW, Land, and Dust Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br>Given the nature of this QI, at times of high tide, it is a receptor to the pollution pathways via surface water from the application site.<br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated. | Yes<br>Surface Water<br>Groundwater<br>Dust |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | | | The QI is not located within the footprint of the site works are at 14C2 or the site compound. As such, it screens out for land pathways.<br><br>The extent of this QI is not mapped by DAERA. Given this, a precautionary principle has been applied, and as such the QI will be assessed further for dust.<br><br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | |
| **[UK0016613] Magilligan SAC** | | | | |
| [2170] Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*) | Dunes with creeping willow, these are seasonally wet hollows in dune systems (slacks) where creeping willow is abundant. On drier slacks, creeping willow occurs with grasses and herbs underneath it. Wetter dunes primarily flood due to due rainwater/groundwater. | Yes<br><br>QI is a potential receptor to SW, and GW Pathways. | Given the nature of this QI, it is unlikely to be flooded by seawater or surface water. As such, a surface water pathway is screened out at this stage.<br><br>Seasonally wet dune slacks are influenced by groundwater. Therefore, this QI may be a receptor to groundwater pathways. However, this site is within a different groundwater body to the application site. As such, a groundwater pathway is screened out.<br><br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |
| [2110] Embryonic Shifting Dunes | Embryonic shifting dunes are low sand mounds occurring between the high tide mark and more inland habitats. They are dynamic habitats subject to windblown sand and natural erosion processes and hence suspectable to removal by storms or high tides. | Yes<br><br>QI is a potential receptor to SW, and GW Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br><br>Given the nature of this QI, at times of high tide, it is a receptor to the pollution pathways via surface water from the application site.<br><br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest | Yes<br><br>Surface Water<br><br>Groundwater |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | | | of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | |
| [2130] Fixed dunes with herbaceous vegetation (grey dunes) | This habitat is relatively sheltered with sand mobility greatly reduced compared to other dune habitats and has developed a closed carpet of vegetation. The vegetation is species-rich, with exact nature depending on the grazing regime, degree of stability, and amount of lime in sand. It forms further inland than [2110] and [2120]. | No<br>This QI is not a viable receptor | Given the nature of this QI and its location with the Magilligan SAC, there is no anticipated impact on this QI as a result of site works.<br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |
| [2190] Humid Dune slacks | Humid dune slacks are topographically the lowest-lying regions within a dune system. Dune slacks can remain flooded for 2-6 months per year with fluctuations depending on precipitation and evapotranspiration, as well as surface water pathways. These Dune Slacks form between | Yes<br>QI is a potential receptor to GW Pathways. | Given the nature of this QI and its location with the Magilligan SAC, there is no anticipated impact on this QI as a result of site works.<br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | mature stabilised dunes, away from tidal influence. | | | |
| [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) | These are actively-building dunes, found in areas receiving large quantities of blown sand (potentially due to presence of railway track, sand can accumulate in higher abundance). This provides ideal conditions for the growth of sand-binding marram grass. These form further inland than Embryonic shifting dunes. | Yes<br>QI is a potential receptor to SW, and GW Pathways. | Given the nature of this QI and its location with the Magilligan SAC, there is no anticipated impact on this QI as a result of site works.<br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |
| [1065] Marsh Fritillary (*Euphydryas aurinia*) | Magilligan SAC and Umbra Woodland are known to be key hotspots for Marsh Fritillary, as well as other Butterflies in Northern Ireland. The species frequents damp meadows and chalk grassland, where its larvae feed on devil's-bit scabious. | No<br>This QI is not a viable receptor | Given the nature of this QI and the habitats it utilises within Magilligan SAC, there is no anticipated impact on this QI because of site works.<br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| [1393] Petalwort (*Petalophyllum ralfsii*) | This liverwort is found on bare, moist, stable sand or short turf of base-rich dune slacks and machair where the habitat can be subject to inundation in winter. The species is found on Humid Dune Slack. Wetter dunes primarily flood due to due rainwater/groundwater. | Yes<br>QI is a potential receptor to GW Pathways. | Given the nature of this QI and its location with the Magilligan SAC, there is no anticipated impact on this QI as a result of site works.<br>**Therefore, this QI is not a receptor, and a Source-Pathway-Receptor model cannot be established.** | No |
| **[UK0030383] Skerries and Causeway SAC** | | | | |
| [1170] Reefs | Reefs are marine features with hard substrate for colonisation of plants and animals; they range in a depth from intertidal to 400km from the coast. The exposure of intertidal reefs at low tide results in an extreme environment with specialised species, largely fucoid algae and molluscs, e.g. barnacle and | Yes<br>QI is a potential receptor to SW, and GW Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Yes<br>Surface Water<br>Groundwater |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | limpets. Subtidal reefs are largely found in exposed areas with little freshwater influence. With increasing depth less light penetrates, and faunal communities begin to dominate. | | | |
| [1110] Sandbanks which are slightly covered by sea water all the time. | Sandbanks are distinct banks that arise from horizontal or sloping plains of sediment that ranges from gravel to fine sand. They are primarily composed of sandy sediments permanently covered by water, at depths of less than 20m below chart datum. | Yes<br>QI is a potential receptor to SW, and GW Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Yes<br>Surface Water<br>Groundwater |
| [8330] Submerged and partially submerged sea caves | In Ireland sea caves are defined as caves which are fully submerged below | Yes<br>QI is a potential | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, | Yes<br>Surface Water |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | sea level, or which have an intertidal component to them. The entrances of sea caves usually occur on sea cliff faces with the cave extending both above and below sea level. A number of sea caves are known to be completely submerged; others form tunnels or caverns. | receptor to SW, and GW Pathways. | Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br><br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br><br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Groundwater |
| [1351] Harbour Porpoise (*Phocoena phocoena*) | Harbour Porpoise are an aquatic marine species inhabiting the marine waters of this SAC, where they forage and commute. They are highly sensitive to disturbances originating from sources connected to coastal waterbodies. | Yes<br><br>QI is a potential receptor to SW, and GW Pathways. | There is a direct hydrological linkage between the development works and this QI. Surface Water runoff from Section 14C2 may enter the Lower River Bann and transfer to this habitat. Additionally, Surface Water from the site compound may enter the watercourse to the northwest in close proximity and carry to Bann Brook before discharging into the Lower River Bann.<br><br>Given the nature of this QI, it is a receptor to the pollution pathways via surface water from the application site, where its habitat and foraging resources may be impacted.<br><br>Additionally, pollutants may percolate through groundwater within the Coleraine-Kilrea groundwater body from the Site Compound and discharge into the watercourse to the northwest of the site compound, or directly into the River Ban itself, where it would follow an identical pathway as previously stated.<br><br>**Therefore, a pathway does exist, and a Source-Pathway-Receptor model can be established.** | Yes<br><br>Surface Water<br><br>Groundwater |

| Qualifying Interest | Description of Qualifying Interest | Viable Receptor to Screened-in Pathways from Works | Description of Source-Pathway-Receptor Connection for Screened-In Pathways | Source-Pathway-Receptor Achieved |
|---|---|---|---|---|
| | The Porpoise utilises marine habitats within the SAC. | | | |
| KEY: RED = VIABLE RECEPTOR/SOURCE-PATHWAY-RECEPTOR MODEL ACHIEVED; GREEN = NO VIABLE RECEPTOR/SOURCE-PATHWAY-RECEPTOR MODEL NOT ACHIEVED | | | | |

In summary, the following Qualifying Interests of the screened-in European Designations have demonstrated a Source-Pathway-Receptor model to the development site:

**Bann Estuary SAC**

- [2110] Embryonic Shifting Dunes
- [1330] Atlantic salt meadows *(Glauco Puccinellietalia maritimae)*
- [2120] Shifting Dunes along the shoreline with *Ammophila arenaria* (white dunes)
- [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes)

**Magilligan SAC**

- [2110] Embryonic Shifting Dunes

**Skerries and Causeway SAC**

- [1351] Harbour Porpoise (*Phocoena phocoena*)
- [8330] Submerged and partially submerged sea caves
- [1110] Sandbanks which are slightly covered by sea water all the time.
- [1170] Reefs


Legend:

- Site Works Area
- Screened-in European Designations for Surface Water Pathways
- Catchment Area- Lower Neagh Bann
- River Segements Northern Ireland
- Watercourse to northwest of Site Compound Area

Project Title:
AEMP-562
Sea Defence 14C2, Coleraine, Co. Derry

Drawing Title:
S-P-R Established: Surface Water Pathways

| Drawn By: | Checked By: |
|---|---|
| CN | FM |
| Project No: 2000562 | Drawing No: Figure 3-1 |
| Scale: 1/65000 | Date: 18th September 2025 |

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Legend:

- Site Works Area
- Screened-in European Designations for Groundwater Pathways
- Groundwater Body- Coleraine-Kilrea

Project Title:
AEMP-562
Sea Defence 14C2, Coleraine, Co. Derry

Drawing Title:
S-P-R Established: Groundwater Pathways

| Drawn By: | Checked By: |
|---|---|
| CN | FM |
| Project No: 2000562 | Drawing No: Figure 3-2 |
| Scale: 1/65000 | Date: 18th September 2025 |

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Legend:

- Site Works Area
- Screened-in European Designations for Land Pathways

| | |
|---|---|
| Project Title: AEMP-562 Sea Defence 14C2, Coleraine, Co. Derry | |
| Drawing Title: S-P-R Established: Land Pathways | |
| Drawn By: CN | Checked By: FM |
| Project No: 2000562 | Drawing No: Figure 3-3 |
| Scale: 1/65000 | Date: 18th September 2025 |

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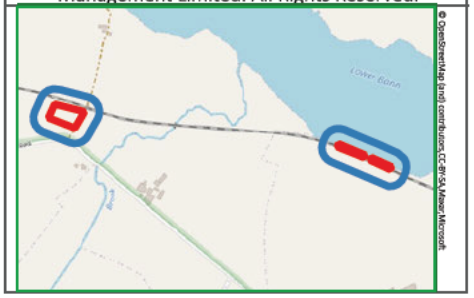


Legend:

- Site Works Area
- Screened-in European Designations for Dust Pathways

| | |
|---|---|
| Project Title: | AEMP-562<br>Sea Defence 14C2, Coleraine, Co. Derry |
| Drawing Title: | S-P-R Established: Dust Pathways |
| Drawn By: CN | Checked By: FM |
| Project No: 2000562 | Drawing No: Figure 3-4 |
| Scale: 1/65000 | Date: 18th September 2025 |

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# 4. Potential Impact on Conservation Objectives of Screened-in European Designations

## 4.1 Site Synopsis

Source-Pathway-Receptor Models were established for 3-no. European Designations, Bann Estuary SAC, Magilligan SAC and Skerries and Causeway SAC. This section provides the background information of the Natura 2000 sites screened to require assessment and the underlying reasoning behind this assessment, including the Conservation Objectives of the 3-no. European Designations that are at risk of impact as a result of the proposed works. Information has been reviewed from the DAERA website.

### 4.1.1 Bann Estuary SAC [UK0030084]

**Identified Pathway to Designation: Surface Water, Groundwater, and Dust Pathways**

Site Synopsis

Centred on the mouth of the River Bann, the site is dominated by the major beach and dune system at Portstewart, with smaller dunes at Grangemore and Castlerock, the latter also has a beach. The site is of earth science importance with contemporary coastal processes and associated dune forms, together with features important to understanding post-glacial sea-level history. The dune systems have notable archaeological records. Apart from the dune habitats, the site hosts significant saltmarsh, wet grassland and fen communities, with natural transitions present between many of these – a rare occurrence for Northern Ireland. Notable species of both higher and lower plants occur.

Conservation Objectives (N.B: Conservation Objectives in bold are those with potential for affect from site works, after applying Source-Pathway-Receptor Model).

To maintain (or restore where appropriate) to favourable condition:

- **Fixed dunes with herbaceous vegetation**
- **Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)**
- **Shifting dunes along the shoreline with *Ammophila arenaria***
- **Embryonic shifting dunes**

### 4.1.2 Magilligan SAC [UK0016613]

**Identified Pathway to Designation: Surface Water and Groundwater Pathways**

Site Synopsis

Magilligan lies in the extreme north-west corner of County Londonderry. The site hosts the area of intact dune principally from Magilligan Point to Benone, as well as dune elements along the Lough Foyle shore. The main habitats are the series of dune grasslands together with dune slacks. These habitats also support notable populations of the Marsh Fritillary butterfly and Petalwort. The site is of international importance for earth science with complex contemporary coastal processes, especially in the region of Magilligan Point, and associated dune forms, together with features important to understanding post-glacial sea-level history. It is the largest coastal depositional feature in Ireland, whilst its well-researched developmental history, combined with rigorous dating, makes it one of only a handful of sites in Europe sufficiently well researched for elucidation of a reliable sea level and sand dune chronology. The dunes also host an important series of fossil soil horizons.

Conservation Objectives:

To maintain (or restore where appropriate) to favourable condition:

- Dunes with *Salix repens ssp. Argentea* (*Salicion arenariae*)
- **Embryonic shifting dunes**
- Fixed dunes with herbaceous vegetation (grey dunes)
- Humid dune slacks
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)
- Marsh Fritillary (*Euphydryas aurinia*)
- Petalwort (*Petalophyllum ralfsii*)

### 4.1.3 Skerries and Causeway SAC [UK0030383]

**Identified Pathway to Designation: Surface Water and Groundwater Pathways**

Site Synopsis

Skerries and Causeway SAC is sited on the north coast of Northern Ireland. The site is predominantly marine although there are significant influxes of freshwater, from the River Bann to the west and the River Bush to the east, which can influence the immediate coastal areas.

The site contains the qualifying Features: Annex I Reef; Annex I Sandbanks which are slightly covered by seawater at all times; Annex I Submerged or partially submerged sea caves; and Annex II Harbour porpoise. It also contains non-qualifying Annex II species, grey seal, common seal, and bottlenose dolphin. Much of the reef in this area is sand scoured reef (which is an unusual type of reef in a Northern Ireland context). This produces a close relationship between the reef and the adjacent sediments: as well as the sand scoured areas of reef and stony reef, there are also large areas of bedrock reef that have a thick veneer of sediment, but still support bedrock epifauna (attached to the

bedrock but growing up through the sediment); and conversely, there are also areas of coarse and mixed sediments that support epifauna communities more reminiscent of the reef habitat. The Annex I Reef is noted for its southern species, rare and priority species, and a number of species first described from the Skerries and Causeway area, including one nudibranch species that has not yet been found elsewhere. As well as the coarse and mixed sediments noted above, the Annex I Sandbanks which are slightly covered by sea water all the time also contains areas of subtidal eel grass Zostera marina (sheltered behind the Skerries) and varied and dramatic sand waves, some over 30m high.

Conservation Objectives (N.B.: Conservation Objectives in bold are those with potential for affect from site works, after applying Source-Pathway-Receptor Model).

To maintain (or restore where appropriate) to favourable condition:

- **Reefs**
- **Sandbanks which are slightly covered by sea water all the time, and**
- **Submerged and partially submerged sea caves**
- **Harbour porpoise (*Phocoena phocoena*)**

## 4.2 Impact on Screened-in QIs and Affected Attributes & Targets

The anticipated impacts on the screened-in Qualifying Interests (QIs) were evaluated in accordance with the Attributes and Targets specified in their Conservation Objectives. This assessment was informed by detailed information obtained from site-specific webpages available on the DAERA website. The findings of this evaluation are summarised in **Table 4-1** below.

**Table 4-1**: Anticipated Impacts on Screened-in Qualifying Interests.

| Screened-in Qualifying Interest | Conservation Objectives | Identified Pathway of Impact | Anticipated Impacts to QI from Works | Attribute & Target affected |
|---|---|---|---|---|
| **Bann Estuary SAC [UK0030084]** | | | | |
| [2110] Embryonic Shifting Dunes | To maintain/enhance the extent of embryonic shifting dunes. | Surface Water<br>Groundwater<br>Dust | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the | **Area of mosaic communities and associated habitats:** Maintain associated mosaic communities and habitats.<br>**Frequency of community character species:** Presence of characterising species, particularly *Elytrigia juncea*, and/or |

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| | To allow the natural processes that determine the development and extent of embryonic shifting dunes to operate appropriately. | | watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann to the SAC and QI. Given that the precise location of this QI is not documented, it has precautionarily been screened in for Dust pathways. | *Leymus arenarius*, with other species such as *Honkenya peploides*, *Cakile maritima* during the summer months of June, July or August<br><br>**Presence of rare or scarce species specific to the site:** Locally distinctive species recorded for the site should be at least present along the length of the Condition Assessment structured walk |
| [2120] Shifting Dunes along the shoreline with *Ammophila arenaria* (white dunes) | To maintain and enhance the extent of white dunes<br><br>To allow the natural processes that determine the development and extent of white dunes to operate appropriately.<br><br>To maintain/enhance the species diversity within this community. | Dust | Given that the precise location of this QI is not documented, it has precautionarily been screened in for Dust pathways. | **Area of mosaic communities and associated habitats:** Maintain associated mosaic communities and habitats.<br><br>**Frequency of community character species:** *Ammophila arenaria* at least frequent and one of the following at least present throughout the sward: *Euphorbia spp., Eryngium maritima, Leymus arenarius, Calystegia soldanela, Festuca rubra, Sonchus spp*<br><br>**Presence of rare or scarce species specific to the site:** Locally distinctive species recorded for the site should be at least present along the length of the Condition Assessment structured walk. |
| [2130] Fixed Coastal Dunes with herbaceous vegetation (grey dunes) | Maintain and expand the extent of existing species-rich fixed dune, SD8.<br><br>Maintain and enhance species diversity within the SD8 community including the presence of notable species.<br><br>Seek nature conservation management over suitable | Dust | Given that the precise location of this QI is not documented, it has precautionarily been screened in for Dust pathways. | **Area of mosaic communities and associated habitats:** Maintain associated mosaic communities and habitats.<br><br>**Frequency of community character species:** At least four of the following at least frequent and four at least occasional throughout the sward: *Polygala sp, Centaurium erythraea, Primula vulgaris, Euphrasia sp, Thymus polytrichus, Galium verum, Ranunculus bulbosus, Linum catharticum, Koeleria macrantha, Lotus corniculatus, Peltigera/Cladonia, Scilla verna, Viola tricolor, Pilosella officinarum, Veronica officinalis, Succisa pratensis, Orchid sp, Anthyllis vulnareria, Erodium spp., Campanula rotundifolia, Erophila verna,* |

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| | areas immediately outside the cSAC where there is possibility of restoring fixed dune.<br><br>Maintain the diversity and quality of habitats associated with the fixed dunes, e.g. neutral grasslands, scrub, especially where these exhibit natural transition to fixed dune vegetation. | | | *Hyacinthoides non-scripta, Ononis repens, Phleum arenarium, Polypodium spp., small Carex*<br><br>**Presence of rare or scarce species specific to the site:** Locally distinctive species recorded for the site should be at least present along the len |
| [1330] Atlantic salt meadows *(Glauco Puccinellietalia maritimae)* | To maintain or extend, as appropriate, the area of saltmarsh, subject to natural processes<br><br>To maintain or enhance, as appropriate, the composition of the saltmarsh communities<br><br>To maintain transitions between saltmarsh communities and to other adjoining habitats<br><br>To permit the continued operation of formative and controlling natural processes acting on the saltmarsh communities | Surface Water<br><br>Groundwater<br><br>Dust | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann to the SAC and QI. Given that the precise location of this QI is not documented, it has precautionarily been screened in for Dust pathways. | **Saltmarsh Community Diversity:** Maintain presence of saltmarsh communities SM10, SM13, SM16, SM18, SM19, SM20 and SM28 as established at baseline survey.<br><br>**Presence of associated semi natural habitats:** Maintain other saltmarsh communities and transitions to freshwater/flush and grassland<br><br>**Maintain Frequency of Positive Indicator Species for SM10, SM13abc, SM16bcde, SM18a, SM19, SM20, and SM28:** Appropriate number of indicator species present<br><br>**Frequency/Cover of Spartina encroachment into the saltmarsh communities**<br><br>**Lack of Pollution:** No evidence of oil or other forms of pollution<br><br>**Saltmarsh Hydrology:** Artificial drainage channels adversely affecting hydrology are absent or rare |
| **Magilligan SAC [UK0016613]** | | | | |

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| [2110] Embryonic Shifting Dunes | To maintain/enhance the extent of embryonic shifting dunes.<br><br>To allow the natural processes that determine the development and extent of embryonic shifting dunes to operate appropriately. | Surface Water<br><br>Groundwater | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann, discharging into the Atlantic Ocean and travelling to this SAC and QI. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann, and further the Atlantic Ocean to the SAC and QI. | **Area (ha):** Presence of embryonic dunes appropriately positioned within the site<br><br>**Area of mosaic communities and associated habitats:** Maintain associated mosaic communities and habitats.<br><br>**Frequency of community character species:** Presence of characterising species, particularly *Elytrigia juncea*, and/or *Leymus arenarius*, with other species such as *Honkenya peploides*, *Cakile maritima* during the summer months of June, July or August<br><br>**Presence of rare or scarce species specific to the site:** Locally distinctive species recorded for the site should be at least present along the length of the Condition Assessment structured walk |
| **Skerries and Causeway SAC [UK0030383]** | | | | |
| [1170] Reefs | To Maintain and enhance, as appropriate the extent of the reefs.<br><br>To Allow the natural processes which determine the development, structure, function and distribution of the habitats associated with the reefs, to operate appropriately.<br><br>To Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat. | Surface Water<br><br>Groundwater | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann, discharging into the Atlantic Ocean and travelling to this SAC and QI. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann, and further the Atlantic Ocean to the SAC and QI. | **Characteristic biotopes at sites chosen so as to provide some indication of the distribution and extent of the Sub-feature.** Results should not deviate significantly from the established baseline, subject to natural change.<br><br>**Species composition of selected biotopes at monitoring sites:** Composite species of selected biotopes should not deviate significantly from the established baseline, subject to natural change. |

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| [1110] Sandbanks which are slightly covered by sea water all the time | To Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes.<br><br>To Allow the natural processes which determine the development, structure and extent of sandbanks which are slightly covered by sea water all the time, to operate appropriately.<br><br>To Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat. | Surface Water<br><br>Groundwater | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann, discharging into the Atlantic Ocean and travelling to this SAC and QI. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann, and further the Atlantic Ocean to the SAC and QI. | **Sediment Character:** Average PSA parameters should not deviate significantly from an established baseline subject to natural change.<br><br>**Characteristic biotopes at sites chosen so as to provide some indication of the distribution and extent of the Sub Feature:** Results should not deviate significantly from the established baseline, subject to natural change.<br><br>**Species composition of selected biotopes at monitoring sites:** Composite species of selected biotopes should not deviate significantly from the established baseline, subject to natural change. |
| [8330] Submerged and partially submerged sea caves | To Maintain and enhance, as appropriate the extent of the sea caves.<br><br>To Allow the natural processes which determine the development, structure, function and distribution of habitats associated with the sea caves, to operate appropriately.<br><br>To Maintain and enhance, as appropriate, the viability, distribution and diversity of | Surface Water<br><br>Groundwater | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann, discharging into the Atlantic Ocean and travelling to this SAC and QI. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann, and further the Atlantic Ocean to the SAC and QI. | **Distribution of characteristic sea cave communities:** Baseline yet to be established. Distribution should not deviate significantly from a baseline to be established, subject to natural change. |

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| | typical species within this habitat. | | | |
| [1351] Harbour Porpoise (*Phocoena phocoena*) | To Ensure the species is a viable component of the site.<br><br>To Ensure there is no significant disturbance of the species.<br><br>To Ensure the supporting habitats and processes relevant to harbour porpoises and their prey are maintained. | Surface Water<br><br>Groundwater | Pollutants from 14C2 may discharge into the Lower River Bann, and further into this SAC and QI; from the site compound, pollutants may discharge into the watercourse outwith the northwestern boundary and flow into Bann Brook and further the Lower River Bann, discharging into the Atlantic Ocean and travelling to this SAC and QI. Additionally, pollutants may percolate through Coleraine Kilrea GWB from the Site Compound and discharge into the watercourse to the northwest, or the River Bann, and further the Atlantic Ocean to the SAC and QI. Both pathways may potentially hinder habitat suitability and prey availability for this QI, degrading it from its favourable conservation status. | **Mean abundance of adults within the SAC:** Sightings rate from land-based watches not less than 0.314 harbour porpoise per hour (based at Ramore Head).<br><br>**Presence/absence of young:** No Target Defined |

# 5. Cumulative Impacts

## 5.1 Existing Threats and Pressures to Qualifying Interests

An assessment for the potential for cumulative/combined effects with other pressures/threats in each 'screened in' Natura 2000 site was undertaken, using relevant documents available on the DAERA website. This included the Conservation Objectives Supporting Document, Site Synopsis, and the Natura 2000 Standard Data Form. These threats and pressures are currently existing on the screened-in European Designations; the proposed development was assessed to identify the undertaking of works would produce in combination effects with the pre-existing threats.

For screened-in European Designations, relevant existing threats and pressures are documented and include:

- **Magilligan SAC**: Recreational Activities
- **Bann Estuary SAC**: Dune Sand Removal, Human Recreational Impact/Vehicle Access on Beach
- **Skerries and Causeway SAC:** Disposal of Dredge Spoil, Discharge of Commercial effluent/sewage, Marine Litter, Coastal and Marine Development

Given the scope of works and timeframe of completion, work activities are not considered likely to act cumulatively or in-combination with the existing pressures identified within these designated sites. As such, no significant cumulative effects are anticipated as a result of existing threats and pressures.

## 5.2 Other Plans and Projects

An extensive search and examination were carried out inclusive of any plans and projects with the potential for cumulative effects on all designated sites downstream of the application site when considered in conjunction with the works proposed as part of this development.

The Northern Ireland Planning Register was consulted reviewing planning applications within the locality of the application site, applications within the last 5 years, including any proposed plans and developments still under consideration were assessed for their potential cumulative impacts.

The assessment considered the following Planning Policies and Development Plans:

- Planning Policy Statements (PPS) – PPS 2: Natural Heritage
- Department for Infrastructure - Regional Development Strategy 2035
- A Community Plan for Causeway Coast and Glens 2017 – 2030
- Green Growth Strategy for Northern Ireland

The review for this Habitat Regulation Assessment of the Regional Development Strategy 2035 for Northern Ireland and Draft Green Growth Strategy for Northern Ireland as well as the Planning Policy Statement (PPS) – PPS 2: Natural Heritage and the document "A Community Plan for Causeway Coast and Glens 2017 – 2030", primarily focused on policies and objectives related to Natura 2000 sites and natural heritage. Additionally, policies and objectives concerning sustainable land use were also considered. Table 5-1 below outlines this summary.

**Table 5-1:** Cumulative Impact Assessment of development when considered with surrounding developments

| Plans | Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence | Assessment of Potential Cumulative Impacts on European Designated Sites |
|---|---|---|
| Planning Policy Statements (PPS) – PPS 2: Natural Heritage | **Policy NH 1** - European and Ramsar Sites - International<br>Planning permission will only be granted for a development proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on:<br>• A European Site (Special Protection Area, proposed Special Protection Area, Special Areas of Conservation, candidate Special Areas of Conservation and Sites of Community Importance);<br>• A listed or proposed Ramsar Site<br>Where a development proposal is likely to have a significant effect (either alone or in combination) or reasonable scientific doubt remains, the Department shall make an appropriate assessment of the implications for the site in view of the site's conservation objectives. Appropriate mitigation measures in the form of planning conditions may be imposed. In light of the conclusions of the assessment, the Department shall agree to the development only after having ascertained that it will not adversely affect the integrity of the site.<br>In exceptional circumstances, a development proposal which could adversely affect the integrity of a European or RAMSAR Site may only be permitted where:<br>• There are no alternative solutions; and, | Several planning applications have been granted planning permission or are under review in the preceding five years, and where necessary, these applications were accompanied by HRA reports (Stage I / Stage II). The majority of these applications are expected to result in minimal disruption, such as change of use of buildings, construction of single dwellings and single-storey extensions to dwellings. Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to AASR as required under Articles 6(3) of the Habitats Directive.<br>A list of planning applications within proximity of the site that have been granted in the past 5 years or<br>are currently under review are listed below.<br>1. LA01/2025/0934/F (On-Going) – Proposed first floor rear balcony<br>2. LA01/2023/0277/F (31/05/2023) – Construction of new dormer window on front elevation<br>3. LA01/2021/0046/F (10/05/2021) – Dormer roof extension with access to new provision of external first floor terrace and all associated roof adjustments / landscaping<br>works<br>4. LA01/2024/1378/F (30/05/2025) – Change of use from Creche to student accommodation (HMO) with no alterations to elevations<br>5. LA01/2021/0770/F (17/09/2021) – Single storey lounge extension to rear of property<br>6. LA01/2022/0189/F (28/04/2022) – Internal alterations and 1.5 storey garage extension with bedroom above<br>7. LA01/2022/0067/F (07/10/2022) – Retention of ancillary storage unit for use by Portstewart Baptist Church single storey prefabricated unit temporary |

| | | |
|---|---|---|
| | • The proposed development is required for imperative reasons of overriding public interest; and<br>• Compensatory measures are agreed and fully secured.<br>As part of the consideration of exceptional circumstances, where a European or Ramsar site hosts a priority habitat or priority species listed in Annex I or II of the Habitats Directive, a development proposal will only be permitted when:<br>• It is necessary for reasons of human health or public safety or there is a beneficial consequence of primary importance to the environment; or,<br>• Agreed in advance with the European Commission. | 8. LA01/2022/0287/F (24/05/2022) – Proposed Single Storey Side Extension to provide a master bedroom with dressing area and en-suite<br>9. LA01/2020/0606/DC – Discharge of Condition 23 of LA01/2018/1272/F<br>10. LA01/2020/0689/DC (08/02/2021) – Discharge of Condition 4 of LA01/2018/1272/F<br>11. LA01/2020/0882/F (30/04/2021) - This application seeks to vary the wording of Condition 9 of LA01/2018/1272/F. The condition reads, "The proposed open space and amenity areas identified on the stamped drawings shall be carried out prior to the occupation of the dwellings hereby approved or as otherwise agreed in writing with the Council. The variation sought would read, "All areas of open space, as indicated on approved plan Landscape Proposal Drawing No. 03 Rev 07 bearing the date stamp 18th September 2019 shall be implemented before 31st January 2022 in accordance with the approved Landscape Proposal Drawing No. 03 Rev 07 and the Landscape Management and Maintenance Plan Doc 8, bearing the date stamp 29th May 2019 and the Planting Details Plan Drawing No. 02 and Addendum to Detailed Planting Plan Drawing No. 03 and Plant Schedule Doc 1 of application LA01/2019/1362/DC (Amended description)<br>12. LA01/2020/0961/DC – Discharge of condition 4 of LA01/2018/1272/F<br>13. LA01/2021/0830/F (11/10/2021) – Proposed single storey extensions to front and side and rear of dwelling<br>14. LA01/2021/0813/F (01/12/2021) – This Section 54 application seeks to vary the wording of condition 9 and 12 of LA01/1272/F and LA01/2020/0882/F to include additional hard and soft landscaping within the central area of approved amenity space to enhance the community facilities. The variations sought would read; (9) All areas of open space , as indicated on approved plan Landscape Proposal No03 Rev 07 bearing the date 18thSept 2019 shall be implemented before 31st Jan 2022 in accordance with the approved Landscape Proposal No03 Rev 08 dated 25th June 2021 and drawing DCL-LP-03 dated 9th June 2021 and the Landscape Management and Maintenance Plan Doc 08, bearing the date stamp 29th May 2019 and the Planting Details Plan drawing No 02 and Addendum to Detailed Planting Plan Drawing 03 and Plant Schedule Doc 01. (12) Details of the maintenance and management of the open space communal areas and landscape areas shall be carried out in accordance Landscape Management and Maintenance Plan Doc 08, bearing the date stamp 29th May 2019, Drawing No03 Rev 08 date 25th June 2021 and associated Schedule Doc 1B date stamped 23rd July 2019 and the central area of open space shall be carried out in accordance with the drawing and Planting schedule provided in Drawing DCL-LP-03 dated 6th June 2021<br>15. LA01/2021/1188/NMC (15/12/2021) - Residential development comprising 87 units; 20 no apartments, 9 no two storey townhouses. 54 no 2-storey semi |
| A Community Plan for Causeway Coast and Glens 2017 – 2030 | **Population Outcome Statement**: All people of Causeway Coast and Glens will value and benefit from a diverse, sustainable and accessible environment with an infrastructure that is fit for its purpose and that allows for further connections.<br>**Outcome 8**: The Causeway Coast and Glens have a sustainably managed natural and built environment<br>This means that:<br>8.1) The historic and natural environment of Causeway Coast and Glens area is fully understood,<br>protected and well looked after<br>8.2) The land and sea of the Causeway Coast and Glens is sustainably managed<br>8.3) The Causeway Coast and Glens area has a clean, healthy, safe environment with improved air,<br>land and water quality | |

| | | |
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| | 8.4) We, in the Causeway Coast and Glens area, value, protect and appreciate our environment | detached dwellings and 4 no 2-storey detached dwellings and associated landscaping/open space, parking and roads access with right turning lane onto Coleraine Road. (Housing zoning PTH51 in the Northern Area Plan 2016)<br>These developments are relatively small-scale/medium-scale developments. The proposed development will not lead to any cumulative impacts upon any designated site when considered in combination with other developments. |

# 6. The Test of Likely Significance

The key test in screening is to establish whether any likelihood of significant effects on European Sites can be ruled out. Once the relevant European Sites and their Qualifying Interests have been identified, this test must be applied.

- Likely – A risk or possibility of effects occurring that cannot be ruled out based on objective information
- Significant – Effects that would undermine the conservation objectives of the European sites, either alone or in-combination with other plans and projects. This depends on:
  - The Ecological Characteristics of the species/habitat e.g., structure, function, conservation status.
  - The character, magnitude, duration, consequences, and probability of the impacts occurring.

Table 6-1 below summarises the findings of this assessment.

**Table 6-1**: Assessment of Likely Significant Effects for Qualifying Interests of Screened in European Designations

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| **Bann Estuary SAC** | | | |
| [2110] Embryonic Shifting Dunes | To maintain/enhance the extent of embryonic shifting dunes.<br><br>To allow the natural processes that determine the development and extent of embryonic shifting dunes to operate appropriately. | The proposed works presents a risk of significant effects on [2110] Embryonic Shifting Dunes via surface water pathways. Pollutants such as suspended sediments, hydrocarbons, and alkaline runoff generated during excavation, site set-up, and in-stream works could be transported downstream, potentially disrupting the natural processes that support dune formation. This may impact the area and quality of mosaic communities, the frequency of character species (*Elytrigia juncea*, *Leymus arenarius*, *Honkenya peploides*, *Cakile maritima*), and the presence of locally distinctive species. Without effective mitigation, significant effects on the conservation attributes and targets of [2110] | <u>Yes – Potential Significant Effects Anticipated on this QI.</u><br><br>There is a source-pathway-receptor model to this QI from the site works area.<br><br>Whilst the works are considered relatively small in scale, given the identified pathways and conservation objectives of the QIs, as well as its sensitive nature, the potential for significant effects cannot be ruled out, without appropriate mitigation.<br><br>An S-P-R model has been established for the following pathways:<br>- Surface Water |

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| | | Embryonic Shifting Dunes are ruled in under precautionary principle (lack of habitat mapping).<br><br>Groundwater Pathways from the temporary site compound are not deemed significant. Given the scope of works in this area (installation of temporary compound), as well as natural attenuation within the GWB that pollutants will undergo before potential discharge, it is unlikely pollutants will be in a high concentration to cause significant impacts to this QI.<br><br>Given the scope and scale of works, dust pathways have been deemed insignificant in this instance. | |
| [2120] Shifting Dunes along the shoreline with *Ammophila arenaria* (white dunes) | To maintain and enhance the extent of white dunes<br><br>To allow the natural processes that determine the development and extent of white dunes to operate appropriately.<br><br>To maintain/enhance the diversity within this community. | Given the scope and scale of works, dust pathways have been deemed insignificant to this QI. The activities involved are highly localised, and of short duration. Additionally, the prevailing natural attenuation from transfer of pollutants through the air, further reduces the likelihood of dust transport to sensitive receptor habitats. As such, there is no potential for significant effects in this case. | <u>No – No Potential for Significant Effects Anticipated to this QI</u><br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |
| [2130] Fixed Coastal Dunes with herbaceous vegetation (grey dunes) | Maintain and expand the extent of existing species-rich fixed dune, SD8.<br><br>Maintain and enhance species diversity within the SD8 community including the presence of notable species.<br><br>Seek nature conservation management over suitable areas immediately outside the SAC where there is possibility of restoring fixed dune. | Given the scope and scale of works, dust pathways have been deemed insignificant to this QI. The activities involved are highly localised, and of short duration. Additionally, the prevailing natural attenuation from transfer of pollutants through the air, further reduces the likelihood of dust transport to sensitive receptor habitats. As such, there is no potential for significant effects in this case. | <u>No – No Potential for Significant Effects Anticipated to this QI</u><br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| | Maintain the diversity and quality of habitats associated with the fixed dunes, e.g. neutral grasslands, scrub, especially where these exhibit natural transition to fixed dune vegetation. | | |
| [1330] Atlantic salt meadows *(Glauco Puccinellietalia maritimae)* | To maintain or extend, as appropriate, the area of saltmarsh, subject to natural processes<br><br>To maintain or enhance, as appropriate, the composition of the saltmarsh communities<br><br>To maintain transitions between saltmarsh communities and to other adjoining habitats<br><br>To permit the continued operation of formative and controlling natural processes acting on the saltmarsh communities | The proposed works at Section 14C2 has potential to affect the [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) within the Bann Estuary SAC via identified surface water pathway. While the construction footprint is limited and pollutant volumes are expected to be low, this Qualifying Interest is particularly sensitive to alterations in water quality and hydrological inputs. Inputs such as fine sediments or hydrocarbons, if transported downstream, degrade saltmarsh vegetation, or interfere with sediment dynamics essential for maintaining habitat structure. These effects may compromise key conservation attributes such as habitat extent, community composition, and the functional integrity of the saltmarsh system. This is coupled with the lack of specific habitat location within the SAC, and therefore in the absence of mitigation is likely to have significant effects.<br><br>Groundwater Pathways from the temporary site compound are not deemed significant. Given the scope of works in this area (installation of temporary compound), as well as natural attenuation within the GWB that pollutants will undergo before potential discharge, it is unlikely pollutants will be in a high concentration to cause significant impacts to this QI. | <u>Yes – Potential Significant Effects Anticipated on this QI.</u><br><br>There is a source-pathway-receptor model to this QI from the site works area.<br><br>Whilst the works are considered relatively small in scale, given the identified pathways and conservation objectives of the Qis, as well as its sensitive nature, the potential for significant effects cannot be ruled out, without appropriate mitigation.<br><br>An S-P-R model has been established for the following pathways:<br><br>- Surface Water |

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| | | Given the scope and scale of works, dust pathways have been deemed insignificant in this instance. | |
| **Magilligan SAC** | | | |
| [2110] Embryonic Shifting Dunes | To maintain/enhance the extent of embryonic shifting dunes.<br><br>To allow the natural processes that determine the development and extent of embryonic shifting dunes to operate appropriately. | While the works at Section 14C2 and the Site Compound presents potential surface water pathways and groundwater pathways for the transport of pollutants such as sediment, hydrocarbons, or alkaline substances, the risk of significant effects on this QI in Magilligan SAC is considered low. Any pollutants generated during the works are expected to be minimal in volume due to the limited scale of the site and will undergo natural attenuation and dilution within the Bann Estuary and wider coastal water system. As a result, the key attributes and targets of the relevant Qualifying Interests are unlikely to be adversely affected. The works are not expected to result in a significant effect on the Conservation Objectives of the SAC. | No – No Potential for Significant Effects Anticipated to this QI<br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |
| **Skerries and Causeway SAC** | | | |
| [1170] Reefs | To Maintain and enhance, as appropriate the extent of the reefs.<br><br>To Allow the natural processes which determine the development, structure, function and distribution of the habitats associated with the reefs, to operate appropriately.<br><br>To Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat. | While the works at Section 14C2 and the Site Compound presents potential surface water pathways and groundwater pathways for the transport of pollutants such as sediment, hydrocarbons, or alkaline substances, the risk of significant effects on this QI in Skerries and Causeway SAC is considered low. Any pollutants generated during the works are expected to be minimal in volume due to the limited scale of the site and will undergo natural attenuation and dilution within the Bann Estuary and wider coastal water system. As a | No – No Potential for Significant Effects Anticipated to this QI<br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| | | result, the key attributes and targets of the relevant Qualifying Interests are unlikely to be adversely affected. The works are not expected to result in a significant effect on the Conservation Objectives of the SAC. | |
| [1110] Sandbanks which are slightly covered by sea water all the time | To Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes.<br><br>To Allow the natural processes which determine the development, structure and extent of sandbanks which are slightly covered by sea water all the time, to operate appropriately.<br><br>To Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat. | While the works at Section 14C2 and the Site Compound presents potential surface water pathways and groundwater pathways for the transport of pollutants such as sediment, hydrocarbons, or alkaline substances, the risk of significant effects on this QI in Skerries and Causeway SAC is considered low. Any pollutants generated during the works are expected to be minimal in volume due to the limited scale of the site and will undergo natural attenuation and dilution within the Bann Estuary and wider coastal water system. As a result, the key attributes and targets of the relevant Qualifying Interests are unlikely to be adversely affected. The works are not expected to result in a significant effect on the Conservation Objectives of the SAC. | <u>No – No Potential for Significant Effects Anticipated to this QI</u><br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |
| [8330] Submerged and partially submerged sea caves | To Maintain and enhance, as appropriate the extent of the sea caves.<br><br>To Allow the natural processes which determine the development, structure, function and distribution of habitats associated with the sea caves, to operate appropriately. | While the works at Section 14C2 and the Site Compound presents potential surface water pathways and groundwater pathways for the transport of pollutants such as sediment or hydrocarbons, the risk of significant effects on this QI in Skerries and Causeway SAC is considered low. Any pollutants generated during the works are expected to be minimal in volume due to the limited scale of the site and will undergo natural attenuation and dilution within the Bann Estuary and wider coastal | <u>No – No Potential for Significant Effects Anticipated to this QI</u><br><br>While impact pathways are present for this qualifying interest (QI), the scope of works and the distance between the site works and the QI are such that significant effects are unlikely. |

| Qualifying Interest | Conservation Objectives | Effect from Works anticipated | Potential for Significant Effects |
|---|---|---|---|
| | To Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat. | water system. As a result, the key attributes and targets of the relevant Qualifying Interests are unlikely to be adversely affected. The works are not expected to result in a significant effect on the Conservation Objectives of the SAC. | |
| [1351] Harbour Porpoise (*Phocoena phocoena*) | To Ensure the species is a viable component of the site.<br><br>To Ensure there is no significant disturbance of the species.<br><br>To Ensure the supporting habitats and processes relevant to harbour porpoises and their prey are maintained. | While the works at Section 14C2 and the Site Compound presents potential surface water pathways and groundwater pathways for the transport of pollutants such as sediment, hydrocarbons, or alkaline substances, the risk of significant effects on this QI in Skerries and Causeway SAC is considered low. Any pollutants generated during the works are expected to be minimal in volume due to the limited scale of the site and will undergo natural attenuation and dilution within the Bann Estuary and wider coastal water system. As a result, the key attributes and targets of the relevant Qualifying Interests are unlikely to be adversely affected. The works are not expected to result in a significant effect on the Conservation Objectives of the SAC. Harbour Porpoise utilise all 10,862ha within the SAC, and will therefore not be significantly impacted by works. | <u>No – No Potential for Significant Effects Anticipated to this QI</u><br>While impact pathways are present for this qualifying interest (QI) and the habitat it utilises, the scope of works and the availability of suitable habitat are such that significant effects are unlikely. |
| KEY: RED = POTENTIAL FOR SIGNIFICANT EFFECTS; GREEN = NO POTENTIAL FOR SIGNIFICANT EFFECTS | | | |

# 7. Stage 2 – Habitats Regulations Assessment

Stage 2 of the Habitats Regulations Assessment process is where a detailed evaluation is carried out to assess the potential effects of a plan or project on the integrity of a Natura 2000 site. This stage is triggered if Stage 1 (Screening) indicates that significant effects cannot be ruled out. The assessment examines the direct, indirect, and cumulative impacts on the site's conservation objectives and qualifying features, outlined in Stage 1. Mitigation measures are considered to mitigate adverse impacts. From Stage 1, the following European Designations and QIs have been carried forward for further assessment into Stage 2:

**Bann Estuary SAC**

- [2110] Embryonic Shifting Dunes
- [1330] Atlantic salt meadows *(Glauco Puccinellietalia maritimae)*

## 7.1 Sources of Impact

As stated in Section 3, sources will come from the Construction Phase. The works will involve the removal of the existing rip rap armour stone, with material reused and repurposed where feasible in the construction of the new coastal defence system, of approx. 155m. A new rip rap revetment will then be installed, consisting of a double interlocking rock layer with stones ranging from 60–300kg. The new structure will be tied into the existing grassed embankments and rip rap embankments, with the details of these tie-ins to be confirmed at the detailed design stage. Placement of rock armour will be carried out in such a way as to mitigate the risk of outflanking, with the potential need for extension of the armour to be addressed during detailed design. A temporary site compound will be erected within proximity of the site, in an agricultural field.

During the construction phase, the works will involve removal of the existing rip rap armour stone, installation of new rock armour, and establishment of a temporary site compound. These activities will result in direct land take, with the potential for disturbance or damage to adjacent habitats from machinery access, storage of materials, and movement of vehicles. Construction activities will generate noise, vibration, and visual disturbance associated with plant operation, vehicle movements, and stone placement. Lighting may also be present during certain periods of the works. These activities may result in temporary disturbance to species using the area. The removal and placement of rock armour will release sediments into the water column, causing increased turbidity and deposition. There is also a risk of pollution from accidental spills of fuel, oil, or hydraulic fluids, as well as from construction materials such as concrete washout. Works have the potential to cause temporary changes to local hydrodynamic and geomorphological conditions, including short-term changes in water flows and areas of scour or erosion at the footprint of the works. Air quality impacts may arise from dust generated by soil handling and stone movement, and from emissions associated with construction plant and vehicles. Waste streams will be produced during construction, including unsuitable rock material and general construction debris. Handling, storage, and re-use of rock armour also introduces the potential for surface water runoff. The works carry an additional risk of introducing or spreading invasive non-native species through construction machinery, rock material, or compound operations.

There will be no impacts within the operational phase; the Sea Defence at Section 14C2 will operate as current. As the development on-site is considered to be permanent, there is no envisioned decommissioning stage of the project. Therefore, no effects are anticipated with regard to decommissioning activities for the application site. The carrying out of demolition or maintenance activities on the site is anticipated to result in comparable disturbances to those outlined in earlier sections relating to the construction phase of the project.

Source-Pathway-Receptor Models were established to have potential for significant impacts to 1-no. European Designation. Without mitigation, it is likely that significant affects to the Qualifying Interests of these European Designations will occur if appropriate mitigation is not implemented. The 1-no. European Designation with an established Source-Pathway-Receptor that has potential for likely significant effects from the site works area is:

- Bann Estuary SAC.

### 7.1.1 Source of Impact via Surface Water Pathways

The following sources of impact are identified as potentially impacting upon Bann Estuary SAC through Surface Water Pathways:

- **Release of Suspended Solids**: The release of suspended solids during site works can significantly impact downstream features. Increased turbidity reduces light penetration, limiting photosynthesis and oxygen production in aquatic habitats. Sediment deposition can smother benthic habitats, impair fish spawning grounds downstream, and disrupt ecosystems. Suspended solids may carry nutrients, heavy metals, and organic matter, degrading water quality and contributing to eutrophication. These effects can harm aquatic life and alter downstream features.
- **Chemical Spills and Leaks**: Spills or leaks of fuels, oils, lubricants, paints, solvents, or highly alkaline concrete washout water from construction equipment and storage areas can degrade aquatic habitats and reduce their suitability for fauna Qualifying Interests (QIs). These pollutants can harm aquatic ecosystems by introducing toxic substances, altering water chemistry, and reducing oxygen levels, which may be detrimental to aquatic life.
- **Waste and Debris**: Improper disposal or water-driven transport of solid waste, such as plastics, construction materials, and packaging, can degrade habitat quality and directly harm fauna Qualifying Interests (QIs) utilising these habitats. Such waste may result in injury or death to wildlife through entanglement, ingestion, or habitat contamination. Implementing proper waste management practices and containment measures is essential to minimise these risks and protect the environment.

## 7.2 Impact Assessment

The Impact Assessment of a Stage 2 Habitats Regulation Assessment considers the likely significant effects of screened in Qualifying Interests of the European Designations, and whether residual effects will still be present with the implementation of avoidance/mitigation measures. Impact Assessments for each Screened-in European Designation are outlined in the following tables:

- Table 7-1: Impact Assessment of Bann Estuary SAC

### 7.2.1 Do-Nothing Scenario

In a "do nothing" scenario, where the sea defences are not maintained or upgraded, the existing structures would continue to deteriorate due to ongoing wave action, tidal forces, and weathering. As concrete, stone, or embankment sections weaken, the ability of the defences to resist coastal erosion and flooding would progressively reduce. Without intervention, erosion at the toe and crest would accelerate, increasing the risk of breaches, overtopping, and localised failures. Over time, this would compromise the overall effectiveness of the defences, exposing inland areas, infrastructure associated with the Railway to greater flood risk and damage. In the long term, the absence of maintenance would likely lead to escalating emergency repair costs, more frequent flooding incidents, and ultimately the need for large-scale reconstruction or replacement, which would be more costly, disruptive, and hazardous than planned maintenance and reinforcement.

### 7.2.2 In-Combination Effects

In Section 5.1 of this report, site-specific conservation objectives for Bann Estuary SAC were reviewed to identify existing threats and pressures for the screened-in qualifying interests per site. No QI was determined to have existing threats and pressures, of which the proposed development could have in-combination effects with.

Additionally, an extensive search and examination were carried out inclusive of any plans and projects with the potential for cumulative effects on all designated sites downstream of the application site when considered in conjunction with the works proposed as part of this development. The Northern Ireland Planning register was consulted reviewing planning applications within the locality of the application site, applications within the last 5 years, including any proposed plans and developments still under consideration were assessed for their potential cumulative impacts. Several planning applications have been granted planning permission or are under review in the preceding five years, and where necessary, these applications were accompanied by HRA reports (Stage I / Stage II). The majority of these applications are expected to result in minimal disruption, such as change of use of buildings, and construction of single dwellings. Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to HRA as required under Articles 6(3) of the Habitats Directive.

### 7.2.3 Results of Impact Assessment

See below the Results of Impact Assessments for screened-in Qualifying Interests of Bann Estuary SAC, with the implementation of mitigation measures where appropriate.

Table 7-1: Impact Assessment of Bann Estuary SAC

| Bann Estuary SAC [UK0030084] | | | | |
|---|---|---|---|---|
| Source of Impact | S-P-R Model determined for QI | Effects on Attribute and Target Prior to Mitigation/Avoidance | Avoidance/Mitigation Measures | Anticipated Impacts from Works with implementation of mitigation measures |
| **Surface Water Pathways** | | | | |
| Release of suspended solids<br><br>Chemical Spills and Leaks<br><br>Waste and Debris | [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)<br><br>[2110] Embryonic Shifting Dunes | The release of suspended solids, chemical spills and leaks, and the presence of waste and debris can all negatively impact downstream Qualifying Interests (QIs) via surface water pathways. Suspended solids can degrade water quality by smothering habitats and disrupting aquatic ecosystems. Chemical spills introduce harmful toxins that can impair habitat suitability and threaten species health. Waste and debris can physically damage habitats and contribute to pollution, further reducing the quality of downstream environments. These sources of impact may travel through surface water pathways to Bann Estuary SAC and its screened-in QIs, posing a risk of significant effects given existing pressures on these sensitive habitats and species.<br><br>The following conservation objectives/attributes & targets could be compromised without avoidance or mitigation measures:<br><br>- [1330]: Saltmarsh community diversity, Maintain frequency of positive indicator species (various habitats), Frequency cover of negative indicators, lack of disturbance, lack of pollution, Saltmarsh hydrology<br>- [2110]: Area of Mosaic communities and associated habitats, frequency of community character species, presence of rare or scare species | To mitigate environmental risks during the construction phase to Bann Estuary and screened-in QIs via surface water pathways, the following measures should be implemented:<br><br>**Construction Environmental Management Plan (CEMP) :**<br><br>o Address potential pollution from surface water runoff and mobilization of silts and sediment.<br>o Incorporate best practices for all construction activities and establish clear protocols for managing surface water runoff.<br><br>This mitigation is outlined further in Appendix A of this report. | **None** |
| KEY: RED = RESIDUAL EFFECTS EXPECTED AFTER MITIGATION/AVOIDANCE; GREEN = NO RESIDUAL EFFECTS EXPECTED AFTER MITIGATION/AVOIDANCE | | | | |

# 8. Assessment of Potential Impacts to Designations

At Stage 1 Screening Test of Likely Significance, undertaken by AVRIO Environmental Management between August 2025 and September 2025, demonstrated that the proposed development was likely to cause degradation to sensitive European Designations within the Zone of Impact; namely, Bann Estuary SAC. Potential impacts were identified through pathways (Surface Water). The prevention of contaminants, and sediments from entering or affecting these pathways during the construction phase is therefore critical. Where these pathways can be effectively managed or eliminated, potential impacts on the integrity of these sites will be significantly reduced, ensuring no detrimental effects are likely to occur.

The implementation and installation of the following mitigation measures will prevent the source (contaminants, silts, sediments) from entering the pathways (Lower River Bann, watercourse northwest of Site Compound), therefore not adding to/increasing the total pollutant concentrations of the receptor (Bann Estuary SAC).

- Implementation of a robust Construction Environmental Management Plan (CEMP). The CEMP should incorporate best practices for all aspects of the construction phase and provide clear protocols for managing surface water runoff via the Lower River Bann or watercourse northwest of the site compound.

To conclude, upon the implementation of the appropriate mitigation measures stated above, a 'source-pathway-receptor' model will not be present; the proposed development will not adversely impact European designations identified within the likely zone of influence during Stage 1 Screening.

# Appendix A – General Contents of a Construction Environmental Management Plan

The Principal Contractor should implement the following mitigation measures into a CEMP to ensure environmental and ecological issues are prevented as a result of construction activities on-site (***Note: Appendix A offers a general outline of measures; within the CEMP itself, these should be site specific in detail***):

- Construction workers should take all possible steps to avoid impacts on wildlife, habitats, and designated sites. Environmental awareness and a responsible attitude towards the natural environment are essential. The environmental objectives of the construction phase of the development should include minimising the generation of pollutants (i.e., dust, sediment, waste etc.), ensure no pollution incidents occur and minimise disturbance to wildlife while protecting and enhancing biodiversity;
- Prior to any works undertaken, appropriate measures should be implemented to prevent any pollution inputs into the surrounding drains and areas likely to be affected through surface water runoff. If runoff is still likely to occur, surface water should be managed to ensure it does not run into excavations, over disturbed ground or onto haul roads.

<u>Surface & Ground Water Management</u>

- Surface water drains, check dams, silt fencing, sediment traps (dynamic separator, straw bales, straw wattles etc., as deemed necessary prior to works commencing), and geotextile materials will be installed where necessary during the construction phase of the development. These measures will protect the surrounding surface and ground water, drains and waterbodies from any sediment (loose soil and debris) that may arise in the event of surface or ground water runoff on-site;
- Existing surface water channels or, where necessary new appropriately sized channels will be installed to collect and channel all surface water runoff.
- Appropriately sized gravel check dams will be installed within all sediment management surface water channels to minimise sediment mobilisation. All surface water channels will be directed to appropriately sized and designed sediment traps;
- Where dewatering from excavated areas is required, water should be pumped to a suitably sized portable settlement tank with silt bags included at the outlet to assist in sediment removal. The location of this system if required should be determined in conjunction with an ECoW on-site prior to dewatering works being undertaken;
- Stockpiles will be kept to a minimum. If soil stockpiling is required, they will be covered with geotextile material, and a silt fence will be erected at the toe of said stockpiles to minimise sediment mobilisation. A perimeter channel will be installed around the base of the stockpiles and directed towards the on-site sediment management channels, which will capture and re-treat any excess stockpile surface water runoff. Timeframes, the soil is stockpiled, and stripped grounds are exposed, will be kept to a minimum.

<u>Sediment Management</u>

- Silt fencing and geotextile materials will be installed during the construction phase of the development. These measures will protect the adjacent watercourse from any sediment (loose soil and debris) that may arise in the event of surface water runoff on-site.
- Silt fencing will be installed along the site boundary to include between the adjacent watercourses and the main site;
- Appropriately sized channels will be installed, as detailed above, to collect and channel all surface water runoff. Appropriately sized gravel check dams will be installed within all sediment management surface water channels to minimise sediment mobilisation. All surface water channels will be directed to an appropriately sized and designed sediment traps;
- Earthworks should not be undertaken during heavy periods of rain;
- Daily inspection and monitoring of sediment management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors

<u>Fuels, Oils, Chemicals, Liquids & Hazardous Materials</u>

- All fuels, oils, chemicals, liquids and hazardous materials will be stored in a designated location with an impervious base and adequately bunded. This area should be located within the construction compound or at an alternative agreed location to secure these materials from possible accidental or intentional damage. This storage location must be located on level ground at least 10 meters from any drain, ditch or possible route of connectivity with the designations. This area must have appropriate signage;
- All material containers will be clearly labelled and stored in resealable containers;
- Bunding must have a minimum capacity of 110% of the volume of the largest tank or 25% of the total storage capacity, whichever is greater. Bunding will be impermeable to the substance being stored;
- Where a Contractor is responsible for materials stored in a bunded area, that Contractor will implement measures for the regular inspection of bunds and emptying of rainwater (when uncontaminated);
- Material storage areas will be at a safe distance from live construction activities;
- All fuels, oils, chemicals, liquids and hazardous materials brought on-site must be accompanied by a Safety Data Sheet (SDS). These products will be stored in accordance with any specific requirements of the SDS;
- A complete register of all SDS's in use on-site will be maintained. Copies of all SDS's will be retained;
- Careful ordering of materials to minimise quantities present on-site;

- Daily inspection and monitoring of fuels, oils, chemicals, liquids and hazardous materials management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors.

Cement, Concrete, Grout & On-Site Washing Facilities

- If concrete is mixed on-site, such activities will be carried out on an impermeable designated area located at least 10 meters from any watercourse or surface water drain to reduce the risk of runoff entering a watercourse;
- Surplus dry concrete, cement and grout will be used elsewhere on-site if possible. Where this is not possible, this material will be disposed of off-site at a suitable disposal facility and transported using a registered waste carrier;
- Excess concrete shall be returned to the batching plant where possible;
- Concrete mixing and delivery lorries shall return to the batching plants for washout;
- All vehicles and equipment used for on-site activities shall be washed out in a designated bunded washout area, specifically designed to contain such wash water. The washout area will be located at least 10 meters away from any watercourse or other elements sensitive to contamination to reduce the risk of runoff entering a watercourse;
- No detergents shall be used in any on-site washdown processes;
- Wash waters will be stored to allow solids to settle out and recirculated to minimise the risk of pollution. Recirculation of wash water will ensure reduced water usage on-site;
- Daily inspection and monitoring of cement, concrete, grout and on-site washing facilities management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors.

Air Quality – Dust Minimisation

- All construction-related traffic will have speed restrictions on unsurfaced roads to 15 kmph;
- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and windy conditions;
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy conditions;
- The designated public roads outside the site and the main transport routes to the site will be periodically inspected for cleanliness and cleaned as necessary;
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind;
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary;

- Daily inspection and monitoring of dust minimisation measures and their effectiveness will be undertaken.

## Noise Minimisation

Best Practicable Means (BPM) of noise control will be applied during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors arising from construction activities.

The general principles of noise management are given below:

Control at source:

- Equipment – noise emissions limits for equipment brought to site;
- Equipment – method of directly controlling noise e.g. by retrofitting controls to plant and machinery;
- Equipment - indirect method of controlling noise e.g. acoustic screens;
- Equipment - indirect method of controlling noise e.g. benefits and practicality of using alternative construction methodology to achieve the objective e.g. vibratory piling techniques or hydrodemolition as opposed to more conventional but noisier techniques; selection of quieter tools/machines; application of quieter processes.

Control across the site by:

- Administrative and legislative control;
- Control of working hours;
- Control of delivery areas and times;
- Careful choice of compound location;
- Physically screening site;
- Control of noise via Contract specification of limits;
- Noise Monitoring, to check compliance with noise level limits, cessation of works until an alternative method is found;
- Many of the activities which generate noise can be mitigated to some degree by careful operation of machinery and use of tools.

## Ecological Clerk of Works

Due to the sensitive nature of the site. The CEMP will include for the provision of an Ecological Clerk of Works (ECoW) for the duration of the construction phase, as required.

- An Ecological Clerk of Works (ECoW) will be appointed as part of the construction process;
- The ECoW will be an experienced ecologist and shall have the authority to stop or delay the works if necessary, should there be an ecological issue;

- The ECoW will carry out weekly monitoring visits at a minimum;
- The ECoW may appoint an appropriately qualified deputy to carry out monitoring visits;
- There will be clear point of contact within the project team for the ECOW so that issues can be easily raised, and any urgent problems on the ground can be communicated to the works team;
- The ECoW will be 'on call' to deal with any ecological issues as they arise.