

DFCM Limited

Connswater Bridge - Strengthening and Remedial Repairs

Stage 1 Habitat Regulations Assessment (HRA) Screening Report

Reference:

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Executive Summary

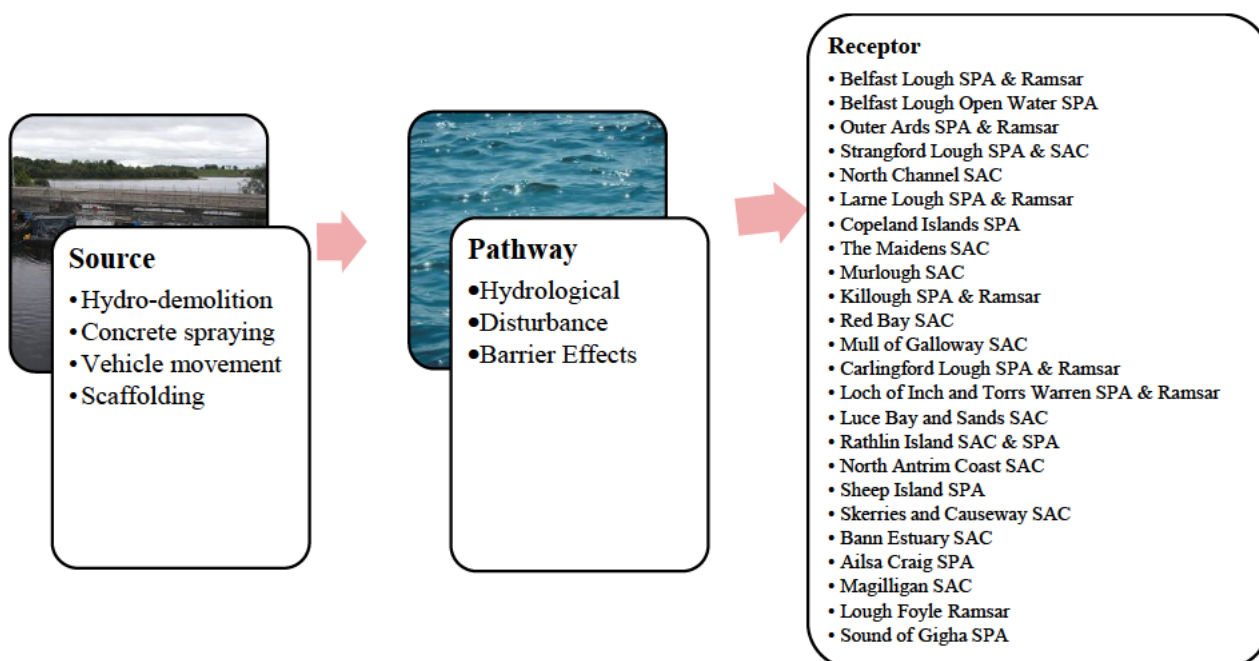
Overview

This report has been prepared by Ove Arup & Partners Ltd (Arup) on behalf of DFCM Limited (hereafter referred to as 'the client'). It presents the findings of a Stage 1 Habitats Regulations Assessment (HRA) Screening for the proposed Connswater Bridge strengthening and remedial repair works (hereafter the 'proposed works'), comprising the rehabilitation of an existing operational bridge in the Belfast Harbour area, Northern Ireland (NI).

The screening has been undertaken in accordance with the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) to determine, applying the precautionary principle, whether the proposed works are likely to have a significant effect on any site forming part of the National Site Network (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, either alone or in combination with other plans or projects. Some changes to the legislation were made post-Brexit by the Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019.

Summary of Approach

The assessment has been undertaken in accordance with the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) and relevant case law (including *Waddenzee C-127/02*¹ and *People Over Wind C-323/17*²). It applies the Source–Pathway–Receptor model, the key elements of which are summarised here.



Embedded design features integral to the proposal (e.g. blast waters from the hydro-demolition repair process captured at sump locations to avoid spillage into the estuary) were taken into account, and no additional mitigation was applied at this stage.

¹ Court of Justice of the European Union (CJEU) (2004) *Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij*, Case C-127/02, Judgment of 7 September 2004. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62002CJ0127> [Accessed: May 2026].

² Court of Justice of the European Union (CJEU) (2018) *People Over Wind and Peter Sweetman v Coillte Teoranta*, Case C-323/17, Judgment of 12 April 2018. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62017CJ0323> [Accessed: May 2026].

Conclusion

Applying the precautionary principle and based on the information available at the time of assessment, it is concluded that the proposed works are not likely to have a significant effect on any European site, either alone or in-combination with other plans or projects.

Accordingly, and in line with Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), it is advised that an Appropriate Assessment (AA) is not required.

Should the project design, footprint or construction methods change materially, or if new information on European sites or other projects becomes available prior to consent, this screening should be reviewed to ensure that its conclusions remain valid.

This conclusion has been prepared in accordance with the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), relevant Government guidance, and applicable case law, including *Waddenzee* (C-127/02) and *People Over Wind* (C-323/17).

The findings of this report provide technical advice to inform the competent authority; the final screening decision rests with the competent authority.

1. Introduction

1.1 Project Overview

The proposed works comprise strengthening and remedial repairs works on Connswater Bridge in north-east Belfast. The proposed works site lies within a predominantly industrial landscape 1.7 km south-east of the Belfast Lough Special Protection Area (SPA) and Ramsar designated site.

A detailed description is provided in Section 2 to inform the identification of potential impact pathways between the proposal and nearby designated sites.

1.2 Purpose of the Report

This report presents the findings of the Stage 1 screening for likely significant effects (LSE) undertaken in accordance with Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended).

The purpose of the screening is to determine, using the precautionary principle, whether the proposed works could have a LSE on any site forming part of the National Site Network (NSN) (comprising Special Areas of Conservation (SACs), SPAs and, where relevant, Ramsar sites), either alone or in-combination with other plans or projects.

If significant effects cannot be excluded, the proposal must proceed to Appropriate Assessment (AA) before any consent, permission or other authorisation may be given.

1.3 Legislative and Policy Context

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, commonly known as the “Habitats Directive”, was transposed into law in Northern Ireland by the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), with changes made by the Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019 (“Habitats Regulations”).

Article 6(3) of the Habitats Directive (transposed by Regulation 43) established the requirement that any plan or project likely to have a significant effect on any Natura 2000 Site(s) (referred to as National Site Network in NI) shall first be subject to an AA of the implications for the site(s), and further that competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site(s) concerned:

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

The Habitats Regulations require a competent authority to consider whether any plan or project, not directly connected with or necessary to the management of a European site, is likely to have a significant effect on that site in view of its conservation objectives, either alone or in-combination with other plans or projects.

Relevant policy guidance includes:

- Communication from the Commission on the Precautionary Principle³;

^[3] Publications Office of the European Union (2020) Communication from the Commission on the Precautionary Principle. Available at [Communication from the Commission on the precautionary principle - Publications Office of the EU \(europa.eu\)](https://publications.europa.eu/en/publication-detail/-/publication/00000000-0000-0000-0000-000000000000). [Accessed April 2026].
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- Guidance document on assessment of plans and projects in relation to Natura 2000 sites⁴;
- Guidance explaining The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019⁵;
- Habitats Directive: guidance on the application of article 6(4) Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures⁶;
- Habitats Regulations Assessments guidance note: Protecting a European site⁷;
- Interpretation manual of European Union Habitats⁸;
- Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC⁹; and
- The Habitats Regulations Assessment Handbook¹⁰.

1.4 Role of the Competent Authority

The Department of Agriculture, Environment and Rural Affairs in Northern Ireland (DAERA) Marine Licensing is the competent authority responsible for undertaking the Habitats Regulations Assessment (HRA) and for reaching the statutory determination on LSEs.

This report has been prepared by Arup to provide technical evidence and a reasoned screening opinion to assist the competent authority in discharging its duty under Regulation 43.

1.5 Need for HRA Screening

Screening under the Habitats Regulations is required because there are potential pathways for LSE from direct (e.g. noise) and indirect (e.g. functional linkage) sources to multiple SAC, SPA and Ramsar designated sites within Belfast Lough and along the NI coast.

The purpose of this stage is to determine, on a precautionary basis, whether any pathway exists that could give rise to LSE on the European sites.

⁴ Publications Office of the European Union (2022) Guidance document on assessment of plans and projects in relation to Natura 2000 sites. Available at [Guidance document on assessment of plans and projects in relation to Natura 2000 sites - Publications Office of the EU \(europa.eu\)](#). [Accessed April 2026].

⁵ DAERA (2020) Guidance explaining The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019. Available at [Confidential \(daera-ni.gov.uk\)](#). [Accessed April 2026].

⁶ Department for Environment, Food and Rural Affairs (2012) Habitats Directive: guidance on the application of article 6(4) Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures. Available at [Habitats Directive: guidance on the application of article 6\(4\) \(publishing.service.gov.uk\)](#). [Accessed April 2026].

⁷ Department for Environment, Food and Rural Affairs (2021) Habitats regulations assessments guidance note: Protecting a European site. Available at [Habitats regulations assessments: protecting a European site - GOV.UK \(www.gov.uk\)](#) [Accessed April 2026].

⁸ European Commission (2013) Interpretation Manual of European Union Habitats. Available at [EUR27 \(europa.eu\)](#). Accessed September 2025

⁹ Official Journal of the European Union (2019). Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC. Available at [Managing Natura 2000 sites — The provisions of Article 6 of the Habitats Directive 92/43/EEC \(europa.eu\)](#). [Accessed April 2026].

¹⁰ Tyldesley, D., and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, (January) (2021) edition. Available at [DTA Publications | The Handbook](#) [Accessed April 2026].

1.6 Scope of the Assessment

The screening considers potential effects on all European sites within 15 km of the proposed works boundary or hydrologically connected to the proposed works and on any mobile qualifying species that may range beyond this distance.

Potential effect pathways assessed include hydrological changes, disturbance and in-combination pressures.

The assessment is based on best-available information, including data from:

- DAERA digital datasets download¹¹;
- Northern Ireland Environment Agency (NIEA) Natural Environment web viewer¹²; and
- NIEA Protected Areas¹³;
- Open Data NI¹⁴; and
- Relevant conservation objectives.

The screening boundary represents a precautionary starting point and may be refined as the assessment progresses, based on ecological connectivity, species mobility and the nature of identified pathways.

1.7 Definitions and Terminology

For the purposes of this assessment, references to European sites include all sites forming part of the National Site Network (NSN), comprising SACs and SPAs designated under the Habitats Regulations. These sites were originally classified or designated under the Habitats Directive (92/43/EEC) and Birds Directive (2009/147/EC). SACs are designated for the protection of habitats and non-avian species of European importance, whereas SPAs are classified for the protection of rare, vulnerable and migratory bird species and their supporting habitats.

In line with NI government policy, potential SPAs (pSPAs), candidate SACs (cSACs) and Ramsar sites are treated as if they were formally designated European sites to ensure their qualifying features are fully safeguarded during assessment.

Ramsar Sites are listed under the International Convention on Wetlands of International Importance (the Ramsar Convention) and usually share boundaries with SACs and/or SPAs. In NI it is established Government policy to afford to Ramsar Sites the same degree of protection as Natura 2000 sites.

Functionally linked land (FLL) refers to off-site areas used by mobile qualifying species for feeding, roosting or movement, which are necessary to support the ecological function of the European site.

The term European sites defined under The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019 collectively refers to SACs and SPAs. The term European sites is being retained and will continue to refer to SAC and SPA sites already designated at the time of EU exit as well as any new SAC and SPA sites brought forward under the appropriate regulations after the end of the transition period¹⁵.

¹¹ DAERA (2024) Digital datasets download. Available at [Download Digital Datasets | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/). [Accessed April 2026].

¹² DAERA (2024) Natural Environment map viewer. Available at [Natural Environment Map Viewer | Department of Agriculture, Environment and Rural Affairs \(daera-ni.gov.uk\)](https://daera-ni.gov.uk/). [Accessed April 2026].

¹³ DAERA (n.d.) Protected Areas. Available at: [Protected areas | Department of Agriculture, Environment and Rural Affairs](https://daera-ni.gov.uk/) [Accessed April 2026].

¹⁴ OpenDataNI (2024) Available at [Portal | Search \(opendatani.gov.uk\)](https://opendatani.gov.uk/). [Accessed April 2026].

¹⁵ DAERA (2020) Terminology interpretation for The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019. Available at: <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Terminology%20interpretation%20for%20The%20Conservation%20%28Natural%20Habitats%2C%20etc.%29....pdf>. [Accessed April 2026].

1.7.1 Conservation Objectives

Conservation Objectives (COs) for European sites are defined for the relevant qualifying features (species and habitats) for which the site is designated. In a general sense, a CO is the specification of the overall target for the species and/or habitat types for which a site is designated, required to maintain or reach a favourable conservation status¹⁶.

¹⁶ European Commission (2012) Commission Note on Setting Conservation Objectives for Natura 2000 sites. Available at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/natura-2000/managing-and-protecting-natura-2000-sites_en [Accessed April 2026].
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2. Proposed Works

2.1 Location and Context

The proposed works are located at NGR NW 49083 31002. The proposed works site is Connswater Bridge which lies within Belfast Port, approximately 3.3 km north-east of Belfast city centre, in an industrial and estuarine landscape.

The surrounding land comprises industrial buildings and Belfast City Airport, with the nearest European site being Belfast Lough SPA and Ramsar located 1.7 km north-east from the proposed works site boundary.

Figure 1 shows the proposed works site location and its context.

2.2 Proposed Works Description

The proposed works comprise the rehabilitation of Connswater Bridge, an existing operational bridge (length 50 m), with remedial works and construction expected to last approximately four months.

Works Operations undertaken would involve scaffolding, hydro-demolition, sprayed concrete, application of protective coatings and use of a silt buster filtration system for filtering blast waters, and is expected to last approximately four months.

The operational lifespan is anticipated to be 30 to 50 years. Decommissioning would only be expected in the event of a critical structural issue. Should decommissioning be required, the bridge would be removed using standard methodologies and disposed of via appropriate mechanisms, with all necessary licences in place.

2.3 Embedded Design Features

The proposed works incorporate several embedded design features that are integral to the design and therefore may be considered at the screening stage (*People Over Wind*, C-323/17), which includes:

- Scaffolding installed around the bridge, with full encapsulation from two layers of netting and drop boxes to contain debris and prevent run-off; and
- Access via existing roads to limit vegetation clearance.

These measures are intrinsic to the design and are not additional mitigation introduced to reduce effects identified through assessment.

2.4 Construction Methods and Timing

Construction would be undertaken using standard plant and techniques appropriate to the scale of development. Working hours are anticipated to be standard construction working hours (daylight hours). No night-time working is proposed.

Construction traffic would access the site via Airport Road and temporary compounds would be located within the red-line boundary shown in Figure 1.

Works are anticipated to commence in January 2027. At this stage, the exact end date is unknown; however, the proposed works are anticipated to be completed over a period of several months.

Further detail on construction methods and environmental management will be provided within the project's Construction Environmental Management Plan (CEMP) or equivalent, once available. This will detail construction-phase environmental controls, and be secured by planning condition.

2.5 Operation and Maintenance

During operation, the facility would be unmanned under normal conditions. Maintenance activities would be limited to periodic inspections and servicing visits, typically annually.

No emissions, discharges or routine lighting are proposed.

2.6 Decommissioning

Decommissioning would only be anticipated in the event of a critical structural issue. Should decommissioning be required, above-ground infrastructure would be removed using standard methodologies, with materials disposed of via appropriate mechanisms and under the necessary licences. Any temporary works would be similar in nature and duration to those associated with construction. Ground would be reinstated to existing levels and returned to its former use, in accordance with standard good-practice measures to control dust and surface water runoff. Decommissioning activities are not expected to introduce new or greater pathways to European sites.

3. Methodology

This assessment has been undertaken in accordance with the Habitats Regulations, relevant NI Government guidance, and associated case law.

3.1 Overview of the HRA Process

The process comprises two principal stages:

1. **Stage 1 – Screening for LSE:** This determines whether the proposed works, alone or in combination, are likely to have a significant effect on any European site in view of its conservation objectives; and
2. **Stage 2 – AA:** Undertaken only if the screening cannot rule out LSE. It considers whether the proposed works would have an adverse effect on the integrity of any European site, and, if necessary, identifies mitigation or alternatives.

This report relates solely to **Stage 1 – Screening**, which has been undertaken applying the precautionary principle, as established in *Waddenzee* (C-127/02)¹.

The precautionary principle requires that, where uncertainty exists, it must be assumed that a significant effect may occur unless it can be excluded on the basis of objective scientific evidence.

Embedded design features forming integral parts of the project have been taken into account at this stage, whereas mitigation measures intended to avoid or reduce effects cannot be considered until any subsequent AA (*People Over Wind*, C-323/17²).

3.2 Data Sources and Evidence Base

The screening has been informed by publicly available datasets and relevant project information, comprising:

- **Natural Environment Map Viewer¹² (NIEA, accessed April 2026):** for identification and mapping of European sites within the study area;
- **Protected Areas Database¹³ (NIEA, accessed April 2026):** for site citations, qualifying features and supplementary advice on COs;
- **Ordnance Survey base mapping:** for spatial context; and
- **Project-specific information:** including construction methodologies provided by the client.

All data are the best available at the time of assessment. Site boundaries and features are indicative and may be refined by NIEA as part of ongoing dataset updates.

3.3 Identification of European Sites Considered

European sites with potential connectivity to the proposed works were identified using Geographic Information System (GIS) analysis and a review of published datasets listed in Section 3.2.

The following search parameters were applied to identify relevant sites within a precautionary screening area:

- Sites within or immediately adjacent to the proposed works boundary;
- Sites linked by hydrological pathways, including watercourses within or downstream of the site (up to approximately 100 km);
- Sites within 200 m of the proposed works where qualifying features may be sensitive to air quality or atmospheric nitrogen deposition; and
- Sites supporting mobile qualifying species (e.g. birds, bats, fish) that may use functionally linked land or habitat within approximately 15 km of the proposed works.

These search distances reflect standard professional practice for screening under the Habitats Regulations, consistent with NIEA and NI Government guidance.

DAERA guidance on screening ranges for mobile marine species has been considered¹⁷. The screening distances already cover DAERA's recommendations, of screening SACs within 100 km for grey seal (*Halichoerus grypus*) and within 50 km for harbour seal (*Phoca vitulina*).

GIS analysis incorporated designated site polygons, watercourse networks, and aerial imagery to identify potential functional connectivity.

The identified sites are listed in Section 4 and shown in Figure 2.

3.4 Criteria for Determining Likely Significant Effects

The assessment follows the precautionary approach set out in case law (*Waddenzee*¹ and *People Over Wind*²), under which a LSE is identified where there is a risk or possibility of an effect on a European site that cannot be excluded on the basis of objective information.

Screening has therefore been undertaken using the following criteria:

- The existence of a plausible impact pathway connecting the proposed works to a European site or its qualifying features (e.g. via air, water, noise, light, or land);
- The scale, nature and duration of the activity relative to the site's sensitivities;
- The conservation objectives (and underpinning supplementary advice) and known vulnerabilities of the site and its qualifying features; and
- The potential for temporal or spatial overlap with other relevant plans or projects.

Where no credible pathway exists, or the source-pathway-receptor linkage can be objectively excluded, the potential for LSE is ruled out and the site is screened from further consideration.

3.5 Consideration of the Significance of Potential Effects

Potential effects were assessed in the absence of mitigation, using professional ecological judgement informed by the best available data and the conservation objectives for each site.

¹⁷ DAERA (2023). Guidance for Marine Protected Area Assessments in the Northern Ireland inshore region. Available at: [Guidance for Marine Protected Area Assessments in the NI inshore region.PDF](#) [Accessed: May 2026].

At the screening stage, assessment against specific conservation objectives is not required; rather, the question is whether it can be excluded, on the basis of objective information, that the proposal is likely to have a significant effect on a European site.

Professional judgement was applied with reference to:

- The vulnerability and sensitivity of qualifying features;
- The phase and duration of potential effects (e.g. construction and/or operation);
- The likely geographical extent of potential effects; and
- The probability of effects occurring, based on comparable experience and evidence.

Where uncertainty remained, the precautionary principle was applied such that the project was assumed to have a likely significant effect unless there was no reasonable scientific doubt that it would not.

This approach ensures that conclusions are based on the best available evidence and consistent with the legal interpretation of Article 6(3) of the Habitats Directive as set out in *Waddenzee* (C-127/02).

3.6 In-combination Assessment Approach

In line with the Habitats Regulations, the assessment also considers whether the proposed works could have effects in-combination with other plans or projects.

Where a potential impact pathway was identified, the assessment considered whether the proposed works could contribute to in-combination effects with other relevant plans or projects. Only those with potential spatial or temporal overlap and a shared impact pathway were included.

Relevant plans and projects were identified through a review of:

- Current and emerging Local Plans and major planning applications within the administrative area;
- Infrastructure or utility schemes known to be under development; and
- Other relevant information from DAERA Marine Licensing and NIEA.

Only those plans or projects with a realistic potential to act cumulatively on the same qualifying features were taken forward for in-combination consideration.

3.7 Consultation

Consultation with DAERA has confirmed that a Marine Licence will be required for the proposed works. A pre-screening consultation meeting with DAERA is scheduled to take place in May 2026. Once the Marine Licence application has been submitted, it will be subject to public consultation.

3.8 Limitations

This HRA Screening has been undertaken using the best available information at the time of assessment. Should design or data change, the screening should be revisited to confirm conclusions remain valid.

Information obtained from third-party and publicly available sources is considered accurate and up to date at the time of publication. However, due to the dynamic nature of the environment, local conditions and datasets may change between completion of this report and the construction or operation of the proposed works.

The assessment is therefore subject to limitations inherent in the age, resolution, coverage, and availability of source data. Designated site information is sourced primarily from NIEA Natural Environment Map Viewer and Protected Areas Database, which are periodically updated; users of this report should ensure they refer to the latest datasets at the time of decision-making.

The conclusions of this screening are based on the design information and scope defined in Section 2. HRA is iterative; should the design, footprint, mitigation or construction methods change materially, the assessment may need to be revisited to confirm that its conclusions remain valid.

Where uncertainty remains, professional ecological judgement has been applied in accordance with recognised guidance and the precautionary principle. Any such uncertainties that could influence the conclusions have been identified and acknowledged where relevant within this report.

4. European Sites Considered

4.1 Overview

Using the search parameters outlined in Section 3.3, a total of 32 European sites were identified within the defined screening area. These include 12 SACs, 13 SPAs and seven Ramsar sites.

Figure 2 illustrates their locations in relation to the proposed works site.

4.2 Summary of Sites Identified

Table 4.1 summarises the European sites identified within the defined screening area and considers the potential impact pathways from the proposed works.

Table 4.1 Summary of European designated sites within screening area

Site Name	Designation	Approximate Distance & Direction from Proposed Works Site	Qualifying Features (Summary)	Potential Connectivity / Impact Pathway	Screened In / Out for LSE
Belfast Lough	SPA	1.7 km north-east	Redshank (<i>Tringa totanus</i>); common tern (<i>Sterna hirundo</i>); Arctic tern (<i>Sterna paradisaea</i>); bar-tailed godwit (<i>Limosa lapponica</i>); and black-tailed godwit (<i>Limosa limosa</i>).	Hydrological link via Belfast Lough	Screened in
Belfast Lough	Ramsar	1.7 km north-east	Regularly supports internationally important numbers of redshank. Regularly support nationally important numbers of: great crested grebe (<i>Podiceps cristatus</i>); shelduck (<i>Tadorna tadorna</i>); scaup (<i>Aythya marila</i>); eider (<i>Somateria mollissima</i>); goldeneye (<i>Bucephala clangula</i>); red-breasted merganser (<i>Mergus serrator</i>); oystercatcher (<i>Haematopus ostralegus</i>); purple sandpiper (<i>Calidris maritima</i>); dunlin (<i>Calidris alpina</i>); black-tailed godwit; bar-tailed godwit; curlew (<i>Numenius arquata</i>); and turnstone (<i>Arenaria interpres</i>).	Hydrological link via Belfast Lough	Screened in
Belfast Lough Open Water	SPA	2.3 km north	Supports important wintering populations of waterfowl. Supports internationally important populations of great crested grebe.	Hydrological link via Belfast Lough	Screened in
Outer Ards	SPA	11.8 km north-east	Supports important breeding and wintering populations of waterfowl, including: Arctic tern; light-bellied brent goose (<i>Branta bernicla hrota</i>); ringed plover (<i>Charadrius hiaticula</i>); and turnstone.	Hydrological link via Belfast Lough	Screened in
Outer Ards	Ramsar	11.8 km north-east	Regularly supports 1% of the individuals in a population of one species or subspecies of waterbird in any season, including: Arctic tern; Manx shearwater (<i>Puffinus puffinus</i>); light-bellied brent goose; golden plover (<i>Pluvialis apricaria</i>); ringed plover; and turnstone.	Hydrological link via Belfast Lough	Screened in
Strangford Lough	SPA	12.4 km south-east	Supports internationally important breeding populations of sandwich tern (<i>Thalasseus sandvicensis</i>) and common tern. Supports nationally important breeding populations of arctic tern. Regularly supporting in winter over of 20,000 waterfowl including the following internationally important species: light-bellied brent goose, knot (<i>Calidris canutus</i>), and redshank. The following nationally important species contribute to the overall population of over-wintering wildfowl: bar-tailed godwit; black-tailed godwit; coot (<i>Fulica atra</i>); curlew; dunlin; eider (<i>Somateria mollissima</i>); gadwall (<i>Mareca strepera</i>); great-crested grebe; greylag goose (<i>Anser anser</i>); greenshank (<i>Tringa nebularia</i>); goldeneye; golden plover; grey plover (<i>Pluvialis squatarola</i>); lapwing (<i>Vanellus</i>	Hydrological link via Belfast Lough and Irish Sea	Screened in

			<i>vanellus</i>); mallard (<i>Anas platyrhynchos</i>); mute swan (<i>Cygnus olor</i>); oystercatcher; pintail (<i>Anas acuta</i>); red-breasted merganser; ringed plover; shelduck; shoveler (<i>Spatula clypeata</i>); teal (<i>Anas crecca</i>); turnstone; and wigeon (<i>Mareca Penelope</i>).		
Strangford Lough	SAC	12.4 km south-east	European priority interests: coastal lagoons; large shallow inlets and bays; annual vegetation of drift lines; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>); mudflats and sandflats not covered by seawater at low tide; perennial vegetation of stony banks; harbour seal (<i>Phoca vitulina</i>); reefs; and <i>salicornia</i> and other annuals colonising mud and sand.	Hydrological link via Belfast Lough and Irish Sea	Screened in
North Channel	SAC	19.0 km north-east	Harbour porpoise (<i>Phocoena phocoena</i>).	Hydrological link via Belfast Lough	Screened in
Larne Lough	SPA	20.6 km north-east	Supports internationally and nationally important populations of roseate tern (<i>Sterna dougallii</i>); common tern; light-bellied brent goose; and sandwich tern.	Hydrological link via Belfast Lough and North Channel	Screened in
Larne Lough	Ramsar	20.6 km north-east	Regularly supporting internationally important numbers of light-bellied brent goose. Supports important assemblage of roseate tern and common tern, vulnerable and endangered Irish Red Data Book bird species.	Hydrological link via Belfast Lough and North Channel	Screened in
Copeland Islands	SPA	23.1 km east	Internationally important populations of Manx shearwater. Nationally important populations of Arctic tern.	Hydrological link via Belfast Lough and North Channel	Screened in
The Maidens	SAC	30.0 km north-east	European priority interests: sandbanks which are slightly covered by sea water all the time; reefs; and grey seal (<i>Halichoerus grypus</i>).	Hydrological link via Belfast Lough and North Channel	Screened in
Murlough	SAC	36.5 km south	European priority interests: Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>); fixed dunes with herbaceous vegetation ("grey dunes"); Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>); dunes with <i>Salix repens ssp. argentea</i> (<i>Salicion arenariae</i>); embryonic shifting dunes; <i>Euphydryas</i> (<i>Eurodryas</i> , <i>Hypodryas</i>) <i>aurinia</i> ; mudflats and sandflats not covered by seawater at low tide; harbour seal; sandbanks which are slightly covered by sea water all the time; shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes").	Hydrological link via Belfast Lough and Irish Sea	Screened in
Killough Bay	Ramsar	42.0 km south	Supports 1% of the individuals in a population of light-bellied goose.	Hydrological link via Belfast Lough and Irish Sea	Screened in

Killough Bay	SPA	42.0 km south	Supports internationally important populations of light-bellied brent goose.	Hydrological link via Belfast Lough and Irish Sea	Screened in
Red Bay	SAC	53.9 km north	European priority interests: Annex I sandbanks which are slightly covered by sea water all the time.	None Hydrological pathway distance is approx. 64 km from proposed works and no highly mobile species as qualifying features	Screened out
Mull of Galloway	SAC	60.1 km east	Interest features: vegetated sea cliffs of the Atlantic and Baltic coasts.	None Hydrological pathway distance is approx. 64 km from proposed works and no highly mobile species as qualifying features	Screened out
Carlingford Lough	SPA	62.5 south-west	Supports internationally important breeding populations of sandwich tern. Extended site supports internally important numbers of overwintering light-bellied brent geese. Supports internationally important breeding populations of common tern and Arctic tern. Extended site supports nationally important numbers of waders: oystercatcher, ringed plover, grey plover, dunlin and redshank.	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out
Carlingford Lough	Ramsar	62.5 south-west	Supports internationally important breeding populations of sandwich tern. Extended site supports internally important numbers of overwintering light-bellied brent geese. Supports important assemblage of vulnerable and endangered Irish Red Data Book bird species. Supports internationally important breeding populations of common tern and Arctic tern. Extended site supports nationally important numbers of waders: oystercatcher, ringed plover, grey plover, dunlin and redshank.	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out

Loch of Inch and Torrs Warren	SPA	64.9 km east	Regularly supports, in winter, an internationally important number of Greenland white-fronted goose.	Hydrological link via Belfast Lough and North Channel	Screened in
Loch of Inch and Torrs Warren	Ramsar	64.9 km east	Regularly supports 1% or more of the individuals in a population of waterbirds: Greenland white-fronted goose (<i>Anser albifrons flavirostris</i>). Interest features: sand dune system.	Hydrological link via Belfast Lough and North Channel	Screened in
Luce Bay and Sands	SAC	67.6 km east	Interest features: Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>), embryonic shifting dunes; fixed dunes with herbaceous vegetation ("grey dunes"); large shallow inlets and bays; mudflats and sandflats not covered by seawater at low tide; reefs; sandbanks which are slightly covered by sea water all the time; shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"), great crested newt (<i>Triturus cristatus</i>).	None Hydrological pathway distance is approx. 90 km from proposed works and no highly mobile species as qualifying features	Screened out
Rathlin Island	SAC	73.6 km north	European priority interests: submerged or partially submerged sea caves; annual vegetation of drift lines; reefs; sandbanks which are slightly covered by sea water all the time; vegetated sea cliffs of the Atlantic and Baltic coasts.	None Hydrological pathway distance is approx. 85 km from proposed works and no highly mobile species as qualifying features	Screened out
Rathlin Island	SPA	73.6 km north	Supports nationally important numbers of the Annex 1 species Peregrine Falcon (<i>Falco peregrinus</i>). Internationally important breeding numbers of the following migratory species: razorbill (<i>Alea torda</i>); guillemot (<i>Uria aalge</i>) and kittiwake (<i>Rissa tridactyla</i>). Regularly supporting over 20,000 breeding seabirds.	Hydrological link via Belfast Lough and North Channel	Screened in
North Antrim Coast	SAC	76.1 km north	European priority interests: fixed dunes with herbaceous vegetation ("grey dunes"); species-rich <i>Nardus</i> grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe); annual vegetation of drift lines; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>); shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes"); vegetated sea cliffs of the Atlantic and Baltic coasts; and narrow-mouthed whorl snail (<i>Vertigo angustior</i>).	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out

Sheep Island	SPA	76.8 km north-west	Regularly supports, in summer, a nationally important breeding population of the Northern European sub-species of cormorant (<i>Phalacrocorax carbo carbo</i>).	Hydrological link via Belfast Lough and North Channel	Screened in
Skerries and Causeway	SAC	78.6 km north-west	European priority interests: sandbanks which are slightly covered by sea water all the time; reefs; and grey seal (<i>Halichoerus grypus</i>).	Hydrological link via Belfast Lough and North Channel	Screened in
Bann Estuary	SAC	79.2 km north-west	European priority interests: fixed dunes with herbaceous vegetation ("grey dunes"); Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>); embryonic shifting dunes; shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes").	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out
Ailsa Craig	SPA	83.6 km north-east	Regularly supports populations of European importance of the migratory species: northern gannet (<i>Morus bassanus</i>) and lesser black-backed gull (<i>Larus fuscus</i>). Regularly supporting in excess of 20,000 individual seabirds.	Hydrological link via Belfast Lough and North Channel	Screened in
Magilligan	SAC	85.6 km north-west	European priority interests: fixed dunes with herbaceous vegetation ("grey dunes"). European interests: Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>); humid dune slacks; embryonic shifting dunes; <i>Euphydryas</i> (<i>Eurodryas</i> , <i>Hypodryas</i>) <i>aurinia</i> ; <i>Petalophyllum ralfsii</i> ; shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes").	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out
Lough Foyle	Ramsar	87.9 km north-west	Particularly good representative example of wetland complex including intertidal sand and mudflats with extensive sea grass bed, saltmarsh, estuaries and associated brackish ditches. Particularly good representative example of a wetland, which plays a substantial hydrological, biological and ecological system role in the natural functioning of a major river basin which is located in a trans-border position. Supports an appreciable assemblage of rare, vulnerable or endangered species or sub-species: allis shad (<i>Alosa alosa</i>), twaite shad (<i>Alosa fallax fallax</i>), smelt (<i>Osmerus eperlanus</i>), sea lamprey (<i>Petromyzon marinus</i>) and Atlantic salmon (<i>salmo salar</i>). Supports over 20,000 waterfowl.	None Hydrological pathway distance is >100 km from proposed works and no highly mobile species as qualifying features	Screened out

			Regularly supports internationally important numbers of whooper swan (<i>Cygnus cygnus</i>), light-bellied brent goose and bar-tailed godwit.		
Sound of Gigha	SPA	90.5 km north	Regularly supports a wintering population of European importance of the following Annex I species: great northern diver (<i>Gavia immer</i>) and Slavonian grebe (<i>Podiceps auritus</i>). Regularly supports populations of European importance of the following migratory species: common eider (<i>Somateria mollissima</i>) and red-breasted merganser.	Hydrological link via Belfast Lough and North Channel	Screened in

4.3 Sites Screened In

4.3.1 Belfast Lough SPA and Ramsar

The Belfast Lough SPA and Ramsar sites are located 1.7 km north-east of the proposed works and have therefore been taken forward within this screening assessment. These sites support internationally important populations of redshank, along with nationally important populations of Annex I bird species, as outlined in Table 4.1.

The sites' COs are to maintain the population of each qualifying features, including its distribution, abundance and supporting habitats.

Given the location of both the proposed works and designated sites within Belfast Lough, there is potential for a hydrological pathway linking the proposed works to the designated sites. Additionally, because the qualifying species are mobile birds, there is also a potential pathway for effects to arise due to disturbance and indirect habitat degradation.

The Belfast Lough SPA and Ramsar have therefore been screened in for further consideration at the LSE stage.

4.3.2 Belfast Lough Open Water SPA

Belfast Lough Open Water SPA is located 2.3 km north of the proposed works and is designated for supporting important wintering populations of waterfowl and internationally important populations of great crested grebe, as outlined in Table 4.1.

The site's COs are to maintain each qualifying feature in favourable condition by ensuring that the habitats supporting the qualifying bird species are maintained, particularly in relation to extent, structure and function.

Given the location of both the proposed works and designated sites within Belfast Lough, there is potential for a hydrological pathway linking the proposed works to the designated site. Additionally, because the qualifying species are mobile birds, there is also a potential pathway for effects to arise due to disturbance and indirect habitat degradation.

The Belfast Lough Open Water SPA has therefore been screened in for further consideration at the LSE stage.

4.3.3 Outer Ards SPA and Ramsar

The Outer Ards SPA and Ramsar sites are located 11.8 km north-east of the proposed works (13 km by watercourse length) and are designated for important breeding and wintering populations of waterfowl, as outlined in Table 4.1.

The sites' COs are to maintain the qualifying features in favourable condition by safeguarding suitable breeding, feeding and roosting habitats, ensuring adequate food availability, and avoiding disturbance.

Given the location of both the proposed works and designated sites within Belfast Lough, there is potential for a hydrological pathway linking the proposed works to the designated sites. Additionally, because the qualifying species are mobile birds, there is also a potential pathway for effects to arise due to disturbance.

The Outer Ards SPA and Ramsar sites have therefore been screened in for further consideration at the LSE stage.

4.3.4 Strangford Lough SPA and SAC

Strangford Lough SPA and SAC are located 12.4 km south-east of the proposed works (approx. 65 km by watercourse length) and are designated for supporting internationally, nationally important and over-wintering populations of waterfowl, as well as being home to multiple European priority interests, including coastal lagoons, reefs and harbour seal, as outlined in Table 4.1.

The sites' COs are to maintain the site in favourable condition by protecting its qualifying features. This includes maintaining viable bird populations through the protection of supporting habitats under the SPA, and safeguarding the extent, structure and function of Annex I habitats and Annex II species under the SAC.

Strangford Lough SPA and SAC sit within Strangford Lough which is connected to the Irish Sea and therefore, there is potential for a hydrological pathway linking the proposed works to the designated sites. In addition, because the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways. Furthermore, because harbour seal are a mobile species that can travel large distances, they are screened up to 50 km from their designated sites¹⁷, meaning there is potential for effects to arise through disturbance and behavioural barrier pathways.

Strangford Lough SPA and Ramsar sites have therefore been screened in for further consideration at the LSE stage.

4.3.5 North Channel SAC

North Channel SAC is located 19.0 km north-east of the proposed works and has harbour porpoise as a qualifying feature, as outlined in Table 4.1.

The site's COs are to maintain the integrity of the site and contribute to the favourable conservation status of harbour porpoise. This includes ensuring that harbour porpoise remains a viable feature of the site, avoiding significant disturbance, and maintaining supporting habitats, natural processes and prey availability.

Given the location of the SAC at the mouth of Belfast Lough, there is potential for a hydrological pathway linking the proposed works to the SAC. In addition, because harbour porpoise is a mobile species, there is potential for effects to arise via disturbance and behavioural barrier pathways.

The North Channel SAC has therefore been screened in for further consideration at the LSE stage.

4.3.6 Larne Lough SPA and Ramsar

The Larne Lough SPA and Ramsar sites are located 20.6 km north-east of the proposed works (approx. 38 km by watercourse length) and are designated for supporting internationally important wintering populations of light-bellied brent goose, nationally important breeding populations of Annex I tern species, and vulnerable and endangered Irish Red Data Book bird species, as outlined in Table 4.1.

The sites' COs are to maintain the qualifying features in favourable condition by safeguarding suitable breeding, feeding and roosting habitats, ensuring adequate food resources, and avoiding disturbance.

Larne Lough SPA and Ramsar sites are located within Larne Lough which connects to the North Channel and therefore, there is potential for a hydrological pathway linking the proposed works to the designated sites. In addition, because the qualifying features are mobile, there is potential for effects to arise via disturbance pathways.

The Larne Lough SPA and Ramsar sites have therefore been screened in for further consideration at the LSE stage.

4.3.7 Copeland Islands SPA

Copeland Islands SPA is 23.1 km east of the proposed works (approx. 25 km by watercourse length) and is designated for supporting internationally and nationally important seabird populations, as outlined in Table 4.1.

The site's COs are to maintain the qualifying features in favourable condition by ensuring suitable habitat, sufficient food availability and the absence of significant disturbance.

The Copeland Islands sit within the North Channel and therefore, there is potential for a hydrological pathway linking the proposed works to the designated site. In addition, because the qualifying features are mobile, there is potential for effects to arise via disturbance pathways.

The Copeland Islands SPA has therefore been screened in for further consideration at the LSE stage.

4.3.8 The Maidens SAC

The Maidens SAC is located 30.0 km north-east of the proposed works (approx. 34 km by watercourse length) and is designated for its internationally important marine habitats, primarily Annex I sandbanks which are covered by seawater at all times and Annex I reefs, as outlined in Table 4.1.

The site's COs are to maintain (or restore where appropriate) the reefs, sandbanks which are slightly covered by sea water all the time and grey seal to favourable condition by conserving the structure, function, extent and distribution of its qualifying Annex I marine habitats.

The Maidens SAC sits within the North Channel and therefore, there is potential for a hydrological pathway linking the proposed works to the designated site. In addition, because grey seal is a mobile species, which has been shown to travel up to 2100 km from their haul-out site¹⁸, there is potential for effects to arise via disturbance and behavioural barrier pathways.

Maidens SAC has therefore been screened in for further consideration at the LSE stage.

4.3.9 Murlough SAC

Murlough SAC is located 36.5 km south of the proposed works (approx. 81 km by watercourse length) and is designated for its nationally important and well-developed coastal dune system, including extensive Annex I habitats, as outlined in Table 4.1.

The site's COs are to maintain (or restore where appropriate) the qualifying Annex I habitats and their supporting processes to favourable condition.

The Murlough SAC sits within Dundrum Bay, which is connected to the Irish Sea and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated site. In addition, because harbour seal are a mobile species that can travel large distances, they are screened up to 50 km from their designated sites¹⁷, meaning there is potential for effects to arise through disturbance and behavioural barrier pathways.

The Murlough SAC has therefore been screened in for further consideration at the LSE stage.

4.3.10 Killough Bay SPA and Ramsar

Killough Bay SPA and Ramsar are located 42.0 km south of the proposed works (approx. 78 km by watercourse length) and are designated for supporting internationally important populations of light-bellied brent goose, as outlined in Table 4.1.

The sites' COs are to maintain each qualifying feature to favourable condition by safeguarding the extent and quality of supporting intertidal feeding and roosting habitats.

Killough Bay SPA and Ramsar sit within Killough Bay which is connected to the Irish Sea and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated sites. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Killough SPA and Ramsar sites have therefore been screened in for further consideration at the LSE stage.

4.3.11 Loch of Inch and Torrs Warren SPA and Ramsar

Loch of Inch and Torrs Warren SPA and Ramsar are located 64.9 km east of the proposed works (approx. 70.0 km by watercourse length) and are designated for Greenland white-fronted goose, as outlined in Table 4.1.

¹⁸ McConnell, B.J., Fedak, M.A., Lovell, P. & Hammond, P.S. (1999) *Movements and foraging areas of grey seals in the North Sea*. Journal of Applied Ecology, 36(4), pp. 573–590.

The sites' COs are to avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained, and to ensure for the qualifying species that the following are maintained in the long term.

Loch of Inch and Torrs Warren SPA and Ramsar sit in the Irish Sea off the south-west of Scotland, and therefore, there is potential for a hydrological pathway via the Irish Sea linking the proposed works to the designated sites. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Loch of Inch and Torrs Warren SPA and Ramsar sites have therefore been screened in for further consideration at the LSE stage.

4.3.12 Rathlin Island SPA

Rathlin Island SPA site is located 73.6 km north-west of the proposed works (approx. 85 km by watercourse length) and are designated for its internationally important breeding seabird populations, as outlined in Table 4.1.

The sites' COs are to maintain (or restore where appropriate) the qualifying features to favourable condition by preserving the extent, distribution, structure and ecological function of the Annex I reef habitats, and by maintaining viable breeding seabird populations through the provision of suitable nesting and foraging habitat, adequate food availability.

Rathlin Island sits within the Atlantic Ocean and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated sites. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Rathlin Island SAC and SPA sites have therefore been screened in for further consideration at the LSE stage.

4.3.13 Sheep Island SPA

Sheep Island SPA is located 76.8 km north-west of the proposed works (approx. 90 km by watercourse length) and is designated for regularly supporting cormorant in summer, as outlined in Table 4.1.

The site's CO is to maintain the breeding population of cormorant in favourable condition, by maintaining or enhancing the population and the habitats on which they depend.

Sheep Island sits within the Atlantic Ocean and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated sites. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Sheep Island SPA has therefore been screened in for further consideration at the LSE stage.

4.3.14 Skerries and Causeway SAC

Skerries and Causeway SAC is located 78.6 km north-west of the proposed works (approx. 100 km by watercourse length) and is designated for its internationally important marine habitats, particularly Annex I reefs and Annex I sandbanks which are covered by seawater at all times, as outlined in Table 4.1.

The site's COs is to maintain (or restore where appropriate) the qualifying features to favourable condition by conserving the structure, function, extent and distribution of its qualifying Annex I marine habitats and Annex II species.

Skerries and Causeway SAC is located within Atlantic Ocean and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated site.

Skerries and Causeway SAC has therefore been screened in for further consideration at the LSE stage.

4.3.15 Ailsa Craig SPA

Ailsa Craig SPA is located 83.8 km east of the proposed works (approx. 84.2 km by watercourse length) and are designated for supporting populations of European importance of the migratory species, as outlined in Table 4.1.

The site's CO is to maintain protected qualifying features where evidence exists that a feature is in favourable condition.

Ailsa Craig island is located off the south-west coast of Scotland, between the Firth of Clyde and North Channel and therefore, there is potential for a hydrological pathway via the North Channel linking the proposed works to the designated site. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Ailsa Craig SPA has therefore been screened in for further consideration at the LSE stage.

4.3.16 Sound of Gigha SPA

Sound of Gigha SPA is located 90.5 km east of the proposed works (approx. 97.0 km by watercourse length) and are designated for supporting supports a wintering population Annex I bird species, as outlined in Table 4.1.

The site's CO is to maintain protected qualifying features where evidence exists that a feature is in favourable condition.

Sound of Gigha SPA island is located off the south-west coast of Scotland in the Atlantic Ocean and therefore, there is potential for a hydrological pathway linking the proposed works to the designated site. In addition, as the qualifying bird species are mobile, there is potential for effects to arise via disturbance pathways.

Sound of Gigha SPA has therefore been screened in for further consideration at the LSE stage.

4.4 Sites Screened Out

At this stage, 10 protected site has been screened out of further assessment on the basis that there is no plausible impact pathway linking the proposed development to their qualifying features:

- **Carlingford Lough SPA and Ramsar, Bann Estuary SAC, Magilligan SAC, Lough Foyle Ramsar:** These sites are all located >100 km, by watercourse length, from the proposed works and do not support highly mobile marine qualifying features. Therefore, all potential impact pathways can be ruled out.
- **North Antrim Coast SAC:** This site is located 76.1 km north of the proposed works (approx. 98.5 km by watercourse length) on NI's north coast and faces out to the Atlantic Ocean. All the qualifying features are located on the top of sea-cliffs and as such, hydrological impacts from the proposed works are not plausible. The distances from the proposed works, combined with the absence of any functional linkage for qualifying habitats or species, are sufficient to rule out all other potential impact pathways.
- **Red Bay SAC, Mull of Galloway SAC, Luce Bay and Sands SAC and Rathlin Island SAC:** These sites are located >50 km watercourse length from the proposed works. Given the separation distance via the marine pathway and the absence of mobile qualifying features, there are no credible impact pathways linking the proposed works to the site. Therefore, all potential impact pathways can be ruled out.

All other protected sites have been taken forward to the LSE stage.

4.5 Summary of Screening Scope

In summary, of the 32 European sites identified within the initial search area, 22 have been screened in for further assessment and 10 have been screened out at this stage.

Section 5 sets out the screening assessment for LSE on the screened-in sites, both alone and in-combination with other plans and projects.

5. Assessment of Likely Significant Effects

The following assessment considers the potential impact pathways by which the proposed works could affect European sites identified in Section 4. The assessment has been undertaken using a pathway-based approach, examining each plausible source–pathway–receptor linkage between the proposed works and the screened-in European sites.

5.1 Identification of Potential Impact Pathways

Potential impact pathways have been identified based on the characteristics of the proposed works, its location and the sensitivities of European sites identified in Section 4.

The following potential pathways were considered, reflecting standard professional practice and relevant guidance from NIEA and the NI Government:

- Direct habitat loss or physical damage to designated sites or supporting habitats;
- Indirect habitat degradation effects such as edge effects;
- Hydrological change and water quality effects arising from surface or groundwater flows;
- Air quality and atmospheric deposition associated with construction or operational emissions;
- Disturbance from noise, lighting, vibration, or human activity;
- Collision or barrier effects for mobile species (e.g. birds, bats, fish);
- Loss or fragmentation of functionally linked land (FLL) used by mobile qualifying species;
- Introduction or spread of invasive species through material handling or site runoff; and
- Recreational pressure from increased human access or activity.

Error! Reference source not found. summarises the potential impact pathways considered for the proposed works and the outcome of the source–pathway–receptor analysis. Where a complete linkage between source, pathway and receptor (European sites identified in Section 4) could not be established, the pathway has been excluded from further assessment. For example, the direct habitat loss damaged impact pathway has been excluded because no part of the proposed works lies within or immediately adjacent to a European site. Direct land-take and physical habitat loss can therefore be excluded.

Table 5.1. Potential impact pathways

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Indirect Habitat Degradation (Edge Effects)	Hydro-demolition and sprayed concrete processes	Potential for debris from hydro-demolition	Belfast Lough SPA & Ramsar – wintering birds Belfast Lough Open Water SPA – wintering birds	The bridge will be fully encapsulated to contain debris from hydro-demolition and sprayed concrete processes. Two layers of debris netting will be fixed to the scaffold as well as polyethene extending up the abutment and pier face. Therefore, there is no pathway for indirect habitat degradation from the works to the SPAs and Ramsar.	No – pathway excluded
Hydrological Change and Water-Quality	Hydro-demolition and sprayed concrete runoff	Potential entry of blast waters and debris into estuary	Belfast Lough SPA & Ramsar – wintering birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, any release would be small-scale and localised within a tidally influenced estuary, where rapid dilution and dispersion would occur. Given the temporary nature of the works, effects on the SPA and Ramsar, located 13 km downstream (watercourse length), are considered unlikely.	No – pathway excluded
			Belfast Lough Open Water SPA – wintering birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, any release would be small-scale and localised within a tidally influenced estuary, where rapid dilution and dispersion would occur. Given the temporary nature of the works, effects on the SPA and Ramsar, located 3 km downstream (watercourse length), are considered unlikely.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
			Outer Ards SPA & Ramsar – wintering birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, any release would be small-scale and localised within a tidally influenced estuary, where rapid dilution and dispersion would occur. Given the temporary nature of the works, effects on the SPA and Ramsar, located 13 km downstream (watercourse length), are considered unlikely.	No – pathway excluded
			Strangford Lough SPA & SAC – breeding, wintering and migratory birds; Annex I marine and intertidal habitats and Annex II species	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 65 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			North Channel SAC – harbour porpoise	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 19 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
			Larne Lough SPA & Ramsar – wintering light-bellied brent goose and breeding tern species	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 38 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Copeland Islands SPA – breeding birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 25 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			The Maidens SAC – Annex I reef habitats	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 34 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Murlough SAC – coastal sand dune habitats	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 81 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
			Killough Bay SPA & Ramsar – wintering birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 78 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Loch of Inch and Torrs Warren & Ramsar – Greenland white-fronted goose	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 70 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Rathlin Island SPA – breeding birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 85 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Sheep Island SPA - cormorant	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 90 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
			Skerries and Causeway SAC – reefs, sandbanks and grey seal	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 100 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Ailsa Craig SPA – migratory birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 84.2 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded
			Sound of Gigha SPA – wintering birds	The scaffolding system is fully contained and incorporates embedded drop boxes designed to capture all water generated during the repair works. Water will be collected at sump locations along the bridge spans and pumped to a silt buster for treatment, ensuring no untreated runoff enters the waterway. Additionally, if blast waters were to accidentally enter the estuary, the large distance between source and receptor (approx. 97 km by watercourse length), combined with attenuation and dilution, renders pollutant transport highly unlikely.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Disturbance (Noise, Vibration, Lighting, Human Activity)	Hydro-demolition works, vehicle movement	Acoustic or visual disturbance of birds	Belfast Lough SPA & Ramsar – wintering birds Belfast Lough Open Water SPA – wintering birds Outer Ards SPA & Ramsar – wintering birds Strangford Lough SPA & SAC – breeding, wintering and migratory birds; Annex I marine and intertidal habitats and Annex II species Larne Lough SPA & Ramsar – wintering light-bellied brent goose and breeding tern species Copeland Islands SPA – breeding birds Killough Bay SPA & Ramsar – wintering birds Loch of Inch and Torrs Warren & Ramsar – Greenland white-fronted goose Rathlin Island SPA – Annex I reef habitats and breeding birds Ailsa Craig SPA – migratory birds Sound of Gigha SPA – wintering birds	The proposed works have the potential to cause temporary disturbance to bird assemblages passing overhead through construction noise. However, the works would be localised, short-term and intermittent, and would not introduce sustained or elevated levels of acoustic disturbance. Additionally, the surrounding environment is industrial, with regular human activity, to which wintering birds are already accustomed. No loss of foraging or roosting habitat would occur, and construction activities would not alter hydrological or sedimentary processes within designated sites. On this basis, the proposed works are unlikely to result in significant disturbance effects on wintering birds or affect the integrity of the SPA, SAC or Ramsar sites.	No – pathway excluded

Impact Pathway	Source (Activity)	Potential Pathway / Mechanism	Receptor (European Site & Qualifying Features)	Assessment Summary	LSE?
Collision, Entrainment or Barrier Effects	Scaffolding and repair activity	Scaffolding and activity at bridge acting as a behavioural barrier	North Channel SAC – harbour porpoise Strangford Lough SAC – harbour seal The Maidens SAC – grey seal Murlough SAC – harbour seal Skerries and Causeway SAC – grey seal	The proposed works have the potential to create a temporary behavioural barrier to harbour porpoise, harbour seal and grey seal through localised noise and visual disturbance within the estuary, which could theoretically affect movement of individuals between Conn's Water and Belfast Lough. However, the works are short-term, spatially limited, would not obstruct the estuary, and would not result in the loss of habitat or access to prey resources. Harbour porpoise, harbour seal and grey seal using the Belfast Lough coastline are regularly exposed to vessel traffic, industrial activities and existing infrastructure, and are considered well acclimatised to such disturbance. In this context, the proposed works are unlikely to result in a meaningful behavioural barrier for harbour porpoise, harbour seal or grey seal.	No – pathway excluded

5.2 In-combination Assessment

The in-combination assessment builds on the pathway analysis undertaken in Section 5.1. It focuses on those impact pathways for which a plausible source–pathway–receptor linkage has been identified and considers whether other plans or projects could contribute to effects acting on the same European site features.

In-combination effects can only occur where the proposed works themselves have the potential to give rise to a LSE. As no credible impact pathway between the proposed works and any European site has been identified, the proposed works do not make any contribution to in-combination effects.

Accordingly, no in-combination LSEs are anticipated.

6. Screening Conclusion

6.1 Summary of Findings

The screening assessment has considered the potential for the proposed works to result in LSEs on European sites, either alone or in-combination with other plans or projects, in accordance with the Habitats Regulations.

All relevant pathways were reviewed, including direct habitat loss, functional land-take, hydrological change, air quality, disturbance, collision risk, and recreational pressure.

The assessment concluded that for each pathway, either:

- no credible source–pathway–receptor linkage exists; or
- the pathway can be objectively excluded on the basis of available information.

No LSEs have been identified for any European site considered.

6.2 Conclusion of the Screening Stage

Applying the precautionary principle and based on the information available at the time of assessment, it is concluded that the proposed works are not likely to have a significant effect on any European site, either alone or in-combination with other plans or projects.

Accordingly, and in line with the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), it is advised that an AA is not required.

Should the project design, footprint or construction methods change materially, or if new information on European sites or other projects becomes available prior to consent, this screening should be reviewed to ensure that its conclusions remain valid.

This conclusion has been prepared in accordance with the Habitats Regulations, relevant Government guidance, and applicable case law, including *Waddenzee* (C-127/02) and *People Over Wind* (C-323/17).

The findings of this report provide technical advice to inform the competent authority's determination under Regulation 43; the final screening decision rests with the competent authority.

Appendix A

Figures

Figure 1. Context of the proposed works site



Proposed works boundary

A3

375 m

Hwy d

Belfast

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © a r

Coordinate System: British National Grid

m

0 50 100 200 300

01 07/05/2026

Rev

Date

By

Chkd

Appd

Authd

ARUP

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Belfast, BT2 7FD
Tel +44 28 9089 0900
www.arup.com

Client
DCFM Limited

Project Name
Connswater Bridge

Drawing Title
Figure 1. Context of the proposed works site

Scale at A3
1:6,600
Role
Ecology
Suitability
For Issue
Project Number
304815-00
Drawing Number
1

Rev
01

5/7/2025 2:43 PM

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Figure 2. European designated sites within screening area

