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Lower Largo

Shadow Habitats Regulations Appraisal Screening Assessment

Final Report

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This report describes work commissioned by Fife Council, by an instruction dated 3 April 2026. The Client's representative for the contract was Jim Fairgrieve of Fife Council. Isabel Blackburn BSc of JBA Consulting carried out this work.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken between 3 April 2026 and 22 May 2026 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by JBA has not been independently verified by JBA, unless otherwise stated in the Report.

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Abbreviations

BTO	British Trust for Ornithology
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
HRA	Habitats Regulations Appraisal
INNS	Invasive Non-Native Species
MHWS	Mean High Water Springs
PEA	Preliminary Ecological Appraisal
SEPA	Scottish Environment Protection Agency
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WeBS	Wetland Bird Survey

Executive Summary

This report documents the findings of a Shadow Habitats Regulations Appraisal (HRA) Screening Assessment conducted by JBA for the Fife Council. The purpose of a Shadow Habitats Regulations Appraisal (HRA) Screening Assessment is to identify possible impacts of proposed works on the protected qualifying features of European designated sites surrounding the works site. This Shadow HRA updates the findings of a previous Shadow HRA conducted by JBA in 2024 (JBA Consulting, 2024), which investigated the impact of the reconstruction of a collapsing estuary wall at Lower Largo, Fife on the bird species qualifying as features under the surrounding European designated sites. This Shadow HRA considers an updated methods statement from Fife Council and access to local species record data from the British Trust for Ornithology (BTO).

The updated methods statement provides greater detail on the proposed works. These works aim to restabilise a collapsing retaining wall on the right bank of the Kiel Burn estuary. Critically, the wall supports the above Harbour Wynd road, which is used by pedestrians and vehicles. The works will involve the reconstruction of the collapsing section of wall in isolation, and stabilisation of the immediately adjacent wall to facilitate this, using self-drilling anchors adjoined by lateral bands. This is set to commence in September 2026 for a duration of 6 weeks and will require access via a slipway positioned downstream on the right bank of the burn, beyond the Drummochy Road Bridge. Works will commence at low tide and during daylight hours and will involve the use of an excavator with drill attachment. A dry platform will be created in channel using sandbags and grouting will be used to fill voids in the wall.

The surrounding European designated sites remain unchanged since the last Shadow HRA (JBA Consulting, 2024), and include Firth of Forth Ramsar (~0.1km south of works site boundary), Firth of Forth Special Protection Area (SPA, ~0.1km south of works site boundary), and the Outer Firth of Forth and St Andrews Bay Complex SPA. These European sites are designated primarily for the conservation of birds, which are present on and near the site as confirmed by the recent Preliminary Ecological Appraisal (PEA) site survey conducted by JBA (JBA Consulting, 2026).

The timing of works rules out any likely significant impacts on breeding birds since these are primarily absent August - April. Impacts on wintering and on passage birds due to habitat loss are deemed unlikely to be significant due to the small scale and temporary nature of the works and the unsuitability of the works site for nesting (JBA Consulting, 2026). While the works will generate additional noise, wintering and on passage birds are considered unlikely to be affected, even where qualifying species are present in significant numbers. This is due to the positioning of the proposed works approximately 100m upstream of the European sites and within an urban setting, which creates visual and acoustic screening through the barriers of retaining walls and buildings.

1 Introduction

1.1 Purpose of this report

This report has been produced by JBA on behalf of Fife Council in relation to the Harbour Wynd, Lower Largo wall repair scheme, regarding the construction works required to repair damage on a retaining wall supporting a public road adjacent the Keil Burn.

This Shadow Habitats Regulations Appraisal (HRA) document provides Fife Council with guidance on any likely significant effects of the proposed works on European and Ramsar Sites. The Report updates a previous Shadow HRA carried out by JBA for Fife Council in August 2024 (JBA Consulting, 2024), using more recent and comprehensive information including an updated methods statement of the proposed works and local species record data from the British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) archives.

The Local Authority is the Competent Authority in respect of Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (Habitats Regulations Appraisal) and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This document can be described as a 'shadow' HRA, providing the necessary information to the Local Authority with which to make their appraisal.

1.2 Project background

The site of proposed works is a stone and cement retaining wall forming the left bank of the Keil Burn through Lower Largo. The wall is showing signs of movement and disrepair, and needs refurbishment. The location of the damaged retaining wall is indicated in Figure 1-1.

The site is tidal, with the channel being underwater at high tide and exposing sand and cobble substrate at low tide. The works location is immediately upstream of multiple statutory designated nature conservation sites, including two 'European sites' and one of international importance.

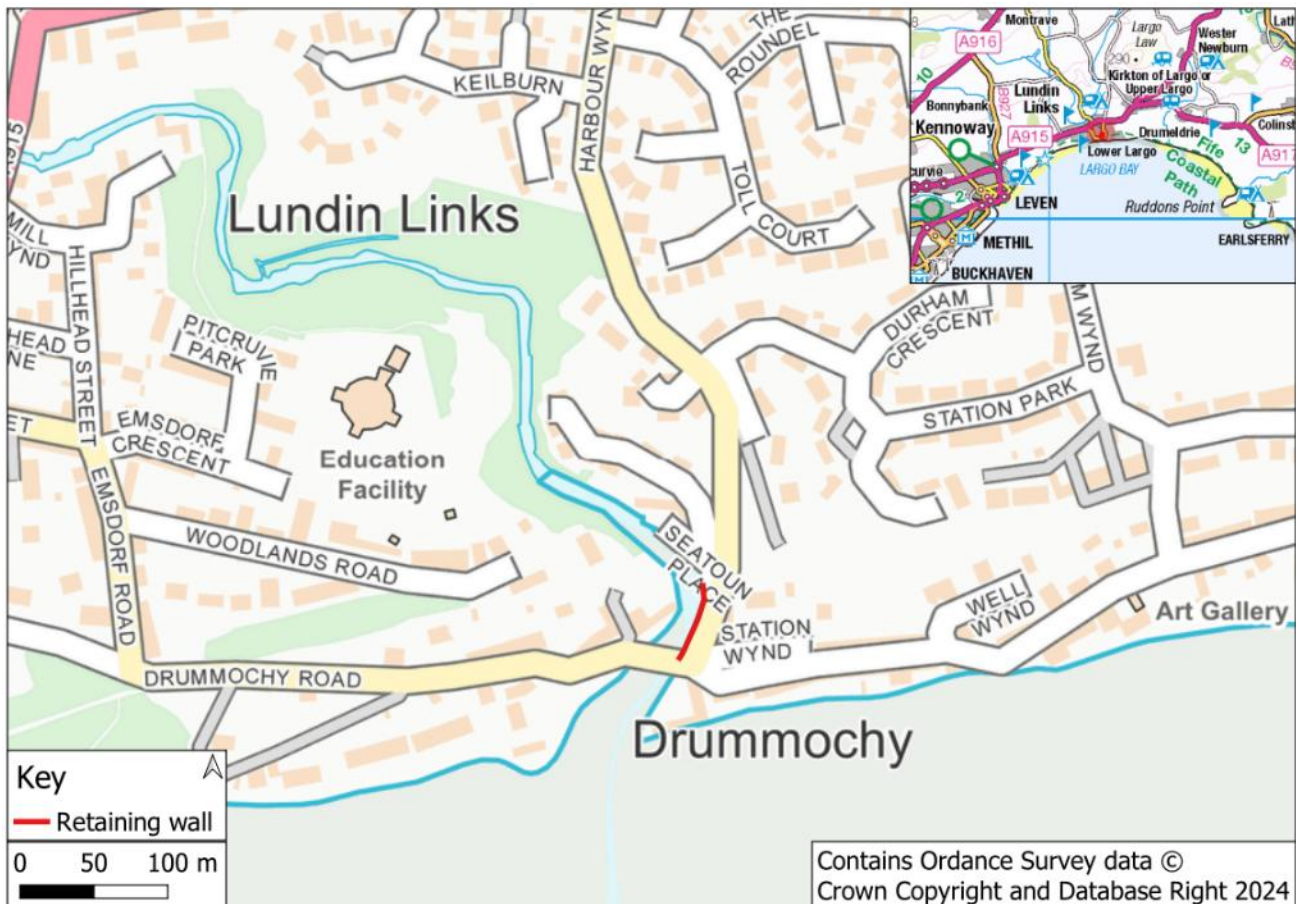


Figure 1-1: Location of retaining wall and proposed works site at Lower Largo

1.3 Legal context

The Conservation (Natural Habitats, &c.) Regulations 1994 as amended (Habitats Regulations Appraisal) (as amended by the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019), also known as the 'Habitats Regulations', provide legal protection to habitats and species of national importance. The regulations also secure an ecological network of protected sites, consisting of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Government guidance also requires that Ramsar sites (which support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance [Ramsar Convention]) are given the same level of protection as SACs and SPAs.

Prior to the UK's withdrawal from the EU, SACs were designated and protected under domestic legislation transposed from European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive), and SPAs under European Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive). Together these sites formed a European-wide Natura 2000 network of protected sites. Since 31 December 2020, SACs and SPAs within the UK no longer fall within the Natura 2000 network, and instead form a National Site Network. SPAs and SACs continue to be referred to collectively as 'European sites' within the context of the Habitats Regulations, reflecting their international importance for the conservation of biodiversity.

SACs and SPAs within the National Site Network are also still designated for habitats listed on Annex I and for species listed on Annex II of the Habitats Directive, and criteria listed under the Birds Directive, and it is these Annex I habitats, Annex II species and Birds Directive Criteria against which assessments under the Habitats Regulations are still made.

Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended states that:

“A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which –

(a) is likely to have a significant effect on a European site in Great Britain (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site,

shall make an appropriate assessment of the implications for the site in view of that site’s conservation objectives.”

This process is commonly referred to as Habitats Regulations Appraisal (HRA).

1.4 HRA process

The HRA is sequential process described in the following sections. A simplified flowchart is provided in Figure 1-2.

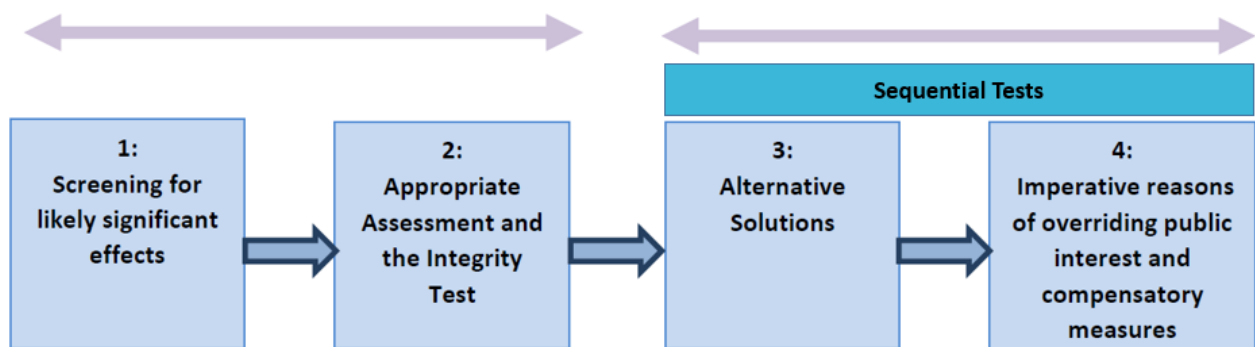


Figure 1-2: Sequential application of the Habitat Regulations for a plan or project.

1.4.1 Stage 1 (Screening)

The principles of ‘screening’ are applied to a project and its components to allow the assessment stage to focus on those aspects that are most likely to have potentially significant or adverse effects on European sites. Screening aims to determine whether the project will have any ‘likely significant effects’ on any European site as a result of its implementation. It is intended to be a coarse filter for identifying effects (positive and negative) that may occur, to allow the assessment stage to focus on the most important aspects. A project should be considered ‘likely’ to have an effect if it is not possible (on the basis of objective information) to exclude the likelihood that the project could have significant effects on any European site, either alone or in-combination with other plans or projects; an effect will be ‘significant’ if it could undermine the site’s conservation objectives.

Screening can be used to 'screen-out' European sites and project components from further assessment, if it is possible to determine that significant effects are unlikely (e.g. if sites or interest features are clearly not vulnerable (exposed and/or sensitive) to the outcomes of a project due to the absence of any reasonable impact pathways).

If no likely significant effect is determined, the project or plan can proceed. If a likely significant effect is identified, either alone or in combination with other plans or projects, stage 2 is commenced.

Following the *People Over Wind & Sweetman v Coillte Teoranta* Case C-323/17, the assessment does not consider protective, avoidance or mitigation measures for stage 1 Screening. These measures are carried forward and considered as part of stage 2.

To undertake the screening of the proposed works, it is necessary to:

- Identify the European site(s) likely to be affected by the works, reasons for their designation and their conservation objectives.
- Describe the proposed works and identify the potential impact pathways/effects on the European site(s).
- Identify any other plans or projects that could act in-combination.
- Assess the significance of these potential impacts pathways/effects on the European site(s).

1.4.2 Stage 2 (Appropriate Assessment)

This assessment determines whether a project or plan would have an adverse impact on the integrity of a European site, either alone or in-combination with other projects or plans. This assessment is confined to the effects on the important habitats and species for which the site is designated (i.e. the qualifying interests of the site).

For those European sites screened into the HRA, it is necessary to undertake an Appropriate Assessment to explore the potential adverse effects on their integrity and develop measures to avoid these effects entirely, or if not possible, to mitigate the impacts sufficiently that effects on the European sites are rendered effectively insignificant.

The stages involved in the Appropriate Assessment are to:

- Explore the reasons for the European designation of the "screened in" European site(s)
- Explore the environmental conditions required to maintain the integrity of the "screened in" European site(s) and become familiar with the current trends in these environmental processes
- Gain a full understanding of the project and its components and consider each within the context of the environmental processes – would the project lead to an impact on any identified process?
- Decide whether the identified impact(s) will lead to an adverse effect on the integrity of the European site(s)

- In reference to ECJ case C-462/17 (Nov 18) Holohan v An Bord Pleanala, the Appropriate Assessment needs to include all typical habitats and species present within and outside of the boundaries of the European site, if they are necessary for the conservation of the habitats and species listed for the protected area.
- Identify other plans and/or projects that might affect the European site(s) in combination with the project and decide if there are any adverse effects that might not result from the project in isolation but will do so in-combination.
- Develop measures to avoid the effect entirely, or if not possible, to mitigate the impact sufficiently such that its effect on the European site is rendered effectively insignificant.

If no adverse effect on site integrity is determined, the project or plan can proceed. If adverse effects cannot be ruled out, Stage 3 is commenced.

1.4.3 Stages 3 and 4 (Alternatives and Compensation)

Where a plan or project has been found to have adverse impacts on the integrity of a European site, potential alternative options should be identified. If suitable alternative options are identified, that result in there being no adverse effects from the project or plan on European sites, the project or plan can proceed. If no feasible alternative options are identified, as a rule the project or plan should not proceed. However, in exceptional circumstances, if there is an 'imperative reason of overriding public interest' (IROPI) for the implementation of the project or plan, consideration can be given to proceeding in the absence of alternative solutions. In this case, compensatory measures have to be put in place to offset negative impacts, and will require approval from the Secretary of State (stage 4). Compensatory measures will need to fully offset the damage which will or could be caused to the site and can include creating or restoring the same or very similar habitat on areas of little or no conservation value within the same site (if it exists), or at a suitable location outside the site. Compensatory measures should usually be in place and effective before the negative effect on a site is allowed to occur.

2 Project Details

2.1 Project summary

The proposed works involve the stabilisation of the C9-10W (Railway Inn) Retaining Wall on the left bank of the Keil Burn estuary, which supports the Harbour Wynd Road and pavement above. The wall has a bulging section that shows signs of collapse, and it is the intention to reconstruct this section of wall in isolation, reusing the same stones to preserve the original appearance of the wall. The works are expected to start in September 2026 and last six weeks; during daylight hours only to minimise the impact on residents and wildlife and during low tide to facilitate access. The stabilisation of the wall during reconstruction of the bulging section will involve the installation of anchors which will penetrate the wall and the bedrock below. This will require access via the Harbour Wynd Road, which will be closed to the public during the works, and access via a slipway placed on the right bank downstream of the Drummochy Road Bridge. A works compound will likely be set up in the Old Station Car park to facilitate the storage of equipment and machinery during the works, since space is restricted in the immediate vicinity of the site. The use of an excavator with a drill attachment is also expected.

2.2 Construction phase

The stabilisation of the Retaining Wall will involve a construction phase with the following sequential steps:

1. Harbour Wynd will be closed to the public and a diversion route put in place. Access to the pavement facing the Keil Burn side of Harbour Wynd will also be closed to the public during the works.
2. A bulk bag cofferdam and inner sandbag dam will be constructed in channel adjacent to the wall, to provide a dry lined working area and to contain grout escape from the works. Bulk bags would be lowered into position from above.
3. Voids in the retaining wall will be pointed by hand to limit losses during grouting and any exposed large voids within the wall will be packed with Soluform bags before coverage with facing stone.'
4. The wall will be cored and anchors inserted at an angle to a depth that penetrates the lower bedrock, using the excavator from the road above. The road surface will be protected with bog mats during the works (Figure 2-1, Figure 2-2 and Figure 2-3).
5. Grout will be pumped into the anchor annulus, allowing any voids within the wall to be filled; clean-up of any grout leakage will be undertaken as works progress.
6. Bespoke lateral banding will be site adjusted and installed to link the rows of anchors together.
7. Pattress plates will be installed to the specified torque to complete the anchor installation.

8. The bulged northern section of the wall (in red, Figure 2-1) will be taken down and rebuilt to match the adjacent section of wall reusing the original cope stones to match the existing wall.
9. Additional weepholes will be installed throughout the wall.
10. After clean-up of the cofferdam area, the bulk bag dam will be removed.
11. The contractor will then remove works equipment from the site and reopen the road.



Figure 2-1: Fife Council proposed stabilisation works at Lower Largo

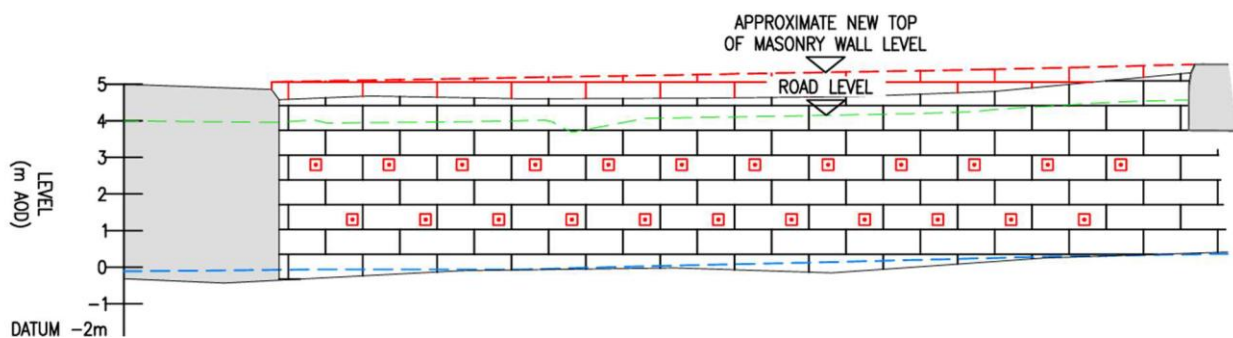


Figure 2-2: Drawing of anchor contact points for stabilisation of the retaining wall

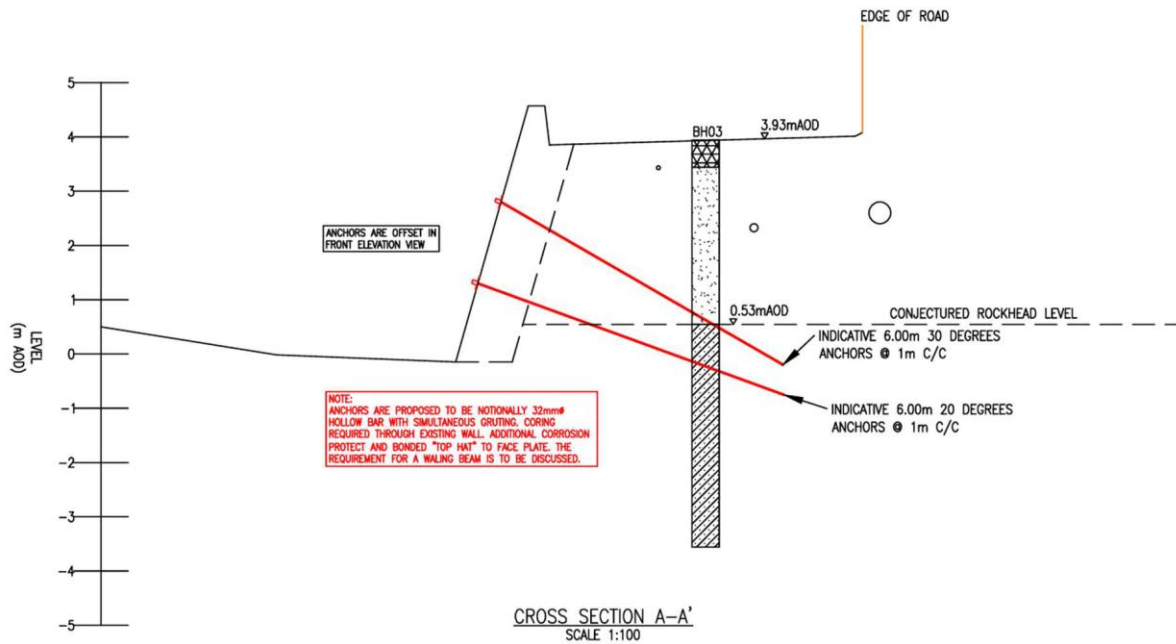


Figure 2-3: Cross-section drawing showing anchor installation into the retaining wall

2.3 Operational phase

No additional activity is anticipated to maintain normal operation of the wall upon completion of the construction phase. As the works are to repair an existing structure, no change from status quo is anticipated as a result of the completion of works.

3 European Sites

There are two SPAs and one Ramsar site within 5km of the project site on Harbour Wynd, Lower Largo (see Figure 3-1). These are situated outside of the proposed works boundary and include the following:

- **Firth of Forth Ramsar** - approximately 0.1km south of works site boundary
- **Firth of Forth SPA** - approximately 0.1km south of works site boundary
- **Outer Firth of Forth and St Andrews Bay Complex SPA** - approximately 0.2km south of the works site boundary

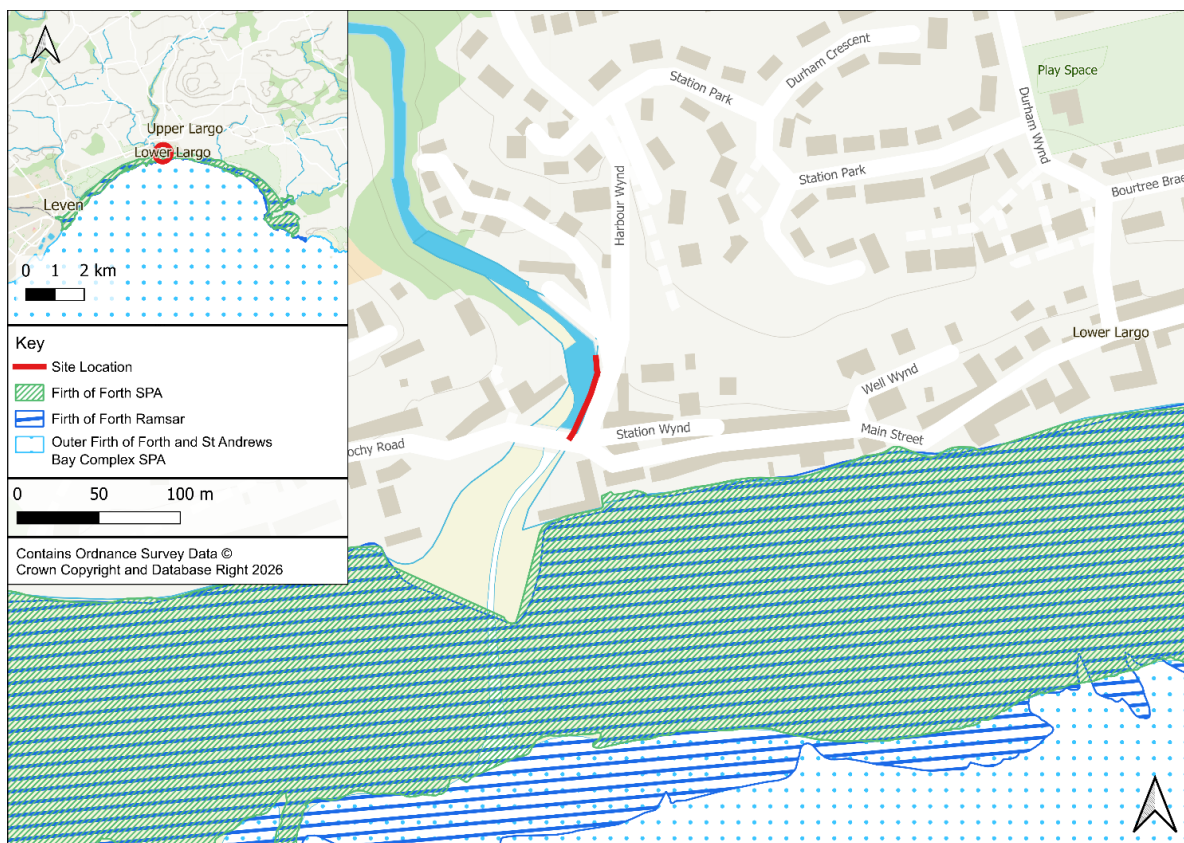


Figure 3-1: Statutory European designated sites within 1km of the proposed works site

Comprehensive details on the characteristics of and designated / classified interest features of the above European site and Ramsar are provided in Appendix B. The characteristics form the basis of the appraisal and include qualifying features, conservation objectives and key vulnerabilities and threats to their conservation status / condition.

The proposed wall repair works will require working within the channel of Keil Burn, in the tidal zone below mean high water springs (MHWS) and just upstream of both Firth of Forth Ramsar and Firth of Forth SPA, and the wider Outer Firth of Forth and St Andrews Bay Complex SPA. Therefore, the proposed works will have ecological and hydrological connectivity to European sites and sites of international interest. No other European sites or sites of international interest are within 5km of the works, or are otherwise considered to have the potential to be impacted by the proposed works.

4 Qualifying Features and Site Conditions

4.1 Firth of Forth Ramsar

The qualifying features of the Firth of Forth Ramsar comprise the following:

- Wintering bird species:
 - Protected under Criterion 2 (vulnerable, endangered or threatened species):
 - Golden Plover *Pluvialis apricaria*
 - Red-throated Diver *Gavia stellata*
 - Protected under Criterion 4 (during critical life cycle stages):
 - Scaup *Aythya marila*
 - Dunlin *Calidris alpina alpina*
 - Ringed Plover *Charadrius hiaticula*
 - Oystercatcher *Haematopus ostralegus*
 - Long-tailed Duck *Clangula hyemalis*
 - Curlew *Numenius arquata*
 - Cormorant *Phalacrocorax carbo*
 - Grey Plover *Pluvialis squatarola*
 - Velvet Scoter *Melanitta fusca*
 - Great Crested Grebe *Podiceps cristatus*
 - Common Scoter *Melanitta nigra*
 - Red-breasted Merganser *Mergus serrator*
 - Migratory Eider *Somateria mollissima*
 - Protected under Criterion 6 (populations of international importance):
 - Goldeneye *Bucephala clangula*
 - Bar-tailed Godwit *Limosa lapponica*
 - Slavonian Grebe *Podiceps auritus*
 - Migratory Pink-footed Goose *Anser brachyrhynchus*
 - Migratory Turnstone *Arenaria interpres*
 - Migratory Knot *Calidris canutus*
 - Migratory Shelduck *Tadorna tadorna*
 - Migratory Redshank *Tringa totanus*
 - Migratory Sandwich Tern *Sterna sandvicensis*
- The assemblage of wintering waterbird species including nationally important populations of the following species:
 - Mallard *Anas platyrhynchos*
 - Wigeon *Mareca penelope*
 - Lapwing *Vanellus vanellus*

4.2 Firth of Forth SPA

The qualifying features of the Firth of Forth SPA comprise the following:

- Wintering bird species:
 - Protected under Annex I (rare, vulnerable and endangered species):
 - Golden Plover
 - Red-throated Diver
 - Slavonian Grebe
 - On passage Sandwich Tern
 - Protected under Article 4.2 (as migratory species)
 - Bar-tailed Godwit:
 - Pink-footed Goose
 - Turnstone
 - Knot
 - Shelduck
 - Redshank
- The assemblage of wintering waterbird species including nationally important populations of the following species:
 - Mallard
 - Wigeon
 - Lapwing
 - Scaup
 - Dunlin
 - Ringed Plover
 - Oystercatcher
 - Long-tailed Duck
 - Curlew
 - Cormorant
 - Grey Plover
 - Velvet Scoter
 - Great Crested Grebe
 - Common Scoter
 - Red-breasted Merganser
 - Goldeneye
 - Eider

4.3 Outer Firth of Forth and St Andrews Bay Complex SPA

The qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA comprise the following:

- Wintering bird species:
 - Protected under Annex I (rare, vulnerable and endangered species):
 - Red-throated Diver
 - Slavonian Grebe
 - Little Gull *Larus minutus*
 - Protected under Article 4.2 (migratory species):
 - Eider
- The assemblage of wintering waterbird species including nationally important populations of the following species:
 - Long-tailed Duck
 - Velvet Scoter
 - Common Scoter
 - Red-breasted Merganser
 - Goldeneye
 - Razorbill *Alca torda*
 - Black-headed Gull *Chroicocephalus ridibundus*
 - European Shag *Gulosus aristotelis*
 - Herring Gull *Larus argentatus*
 - Common Gull *Larus canus*
 - Black-legged Kittiwake *Rissa tridactyla*
 - Common Guillemot *Uria aalge*
- The assemblage of breeding seabird species including nationally important populations of the following species:
 - Atlantic puffin *Fratercula arctica*
 - European Herring Gull
 - Northern gannet *Morus bassanus*
 - Black-legged Kittiwake
 - Foraging Arctic Tern *Sterna paradisaea*
 - Foraging Common Guillemot
 - Foraging European Shag
 - Foraging Common Tern *Sterna hirundo*
 - Present but non-breeding Manx shearwater *Puffinus puffinus*

4.4 Baseline site conditions

A PEA of the site and its surroundings was completed by JBA Ecologists in April 2026 (JBA Consulting, 2026).

The main habitats associated with the site are riparian: flowing fresh and marine water, intertidal cobbles and sediment, and the artificial habitats of the wall, slipway, bridge piers and other man-made structures. Although outside of the European Sites' boundaries, the bird species that comprise qualifying features of those sites could potentially occasionally use the habitats within the proposed works area.

4.4.1 Data limitations

The only data used in this assessment are records supplied by Fife Nature Records Centre and the BTO from the WeBS archives; no specific bird surveys have been undertaken by JBA. It is considered adequate for the purposes of this HRA as, following the principle of precaution, the data suggests that certain species will be present within the European sites, and the assessment assumes a baseline of the likely presence of these species in proximity to the project site.

4.5 Summary of qualifying features in proximity to the proposed works

Data provided by the BTO included records for several species that are also Qualifying Features for Firth of Forth Ramsar and SPA and Outer Firth of Forth and St Andrews Bay Complex SPA within 1km of the proposed works.

The following wintering bird species qualifying for the Firth of Forth Ramsar, Firth of Forth SPA and Outer Firth of Forth and St Andrews Bay Complex SPA have been recorded within approximately 1 km of the proposed works site over the past five years (September–November inclusive):

- Common Scoter
- Eider
- Goldeneye
- Long-tailed Duck
- Red-breasted Merganser
- Red-throated Diver
- Velvet Scoter

In addition to these species, the following were recorded for the Firth of Forth Ramsar and the Firth of Forth SPA:

- Bar-tailed Godwit
- Cormorant
- Curlew
- Dunlin
- Golden Plover
- Grey Plover
- Knot

- Lapwing
- Mallard
- Oystercatcher
- Pink-footed Goose
- Redshank
- Ringed Plover
- Sandwich Tern
- Turnstone

Further species were also recorded for the Outer Firth of Forth and St Andrews Bay Complex SPA:

- European Shag
- Long-tailed Duck

As an absence of records cannot be used to conclude evidence of absence, it is considered probable that any qualifying feature species may have potential to be present during the on passage / wintering period.

5 Screening Assessment

5.1 Introduction

The following section identifies potential hazards of the proposed works to the qualifying features of the European sites. The effects of the potential hazards are then assessed in relation to each of the relevant qualifying features of the screened in sites; namely: Firth of Forth Ramsar, Firth of Forth SPA and Outer Firth of Forth and St Andrews Bay Complex SPA. The likelihood of potential exposure to the hazard and the mechanism of effect are also identified where possible. This then allows for likely significant effects on the qualifying features of the sites to be identified.

5.2 Potential hazards to European sites

The proposed works, as detailed in Section 2, were assessed in order to identify potential hazards that might arise to the relevant qualifying features of the European sites detailed in Section 4. The results of this appraisal are shown in Table 5:1. For simplicity, qualifying features have been grouped together here, but the screening assessment in Section 5.3 considers all European site interest features with relevant hazards.

The relevant qualifying features considered in Table 5:1 include the Wintering/on-passage birds and breeding birds associated with estuarine and intertidal habitats and submerged marine habitats. These birds are listed in Section 4.

Table 5:1: Potential hazards to relevant qualifying features

Potential hazards	Wintering / on-passage birds	Breeding birds
Disturbance	Y	X
Habitat Loss	Y	X
Invasive non-native species (INNS)	Y	Y
Changes in water chemistry	X	X
Increase in suspended sediment	X	X
Y = hazard potentially relevant, X = hazard not relevant		

5.3 Appraisal of likely significant effects

Appraisal of the hazards identified in Table 5 1 was undertaken to determine whether they would be likely to have a significant effect on the relevant qualifying features of the SPA and Ramsar sites and their supporting habitats, as a consequence of the proposed works, either alone or in-combination with other plans or projects. The results of the screening assessment are given in Table 5:2.

Table 5:2: Assessment of the Likely Significant Effects (LSE) of hazards posed by the works on qualifying features of the surrounding European designated sites

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
Firth of Forth Ramsar					
Wintering waterbird assemblage	Habitat loss	There were more than 1% of the 95,000 individuals cited within the Ramsar recorded within 1km of the works site during the autumn and winter months (Autumn = 1.3% assemblage, Winter = 1.2% assemblage, taken from 5yr average from 2021-2026). Therefore, it is considered likely that a significant proportion of the assemblage will be present during works. However, habitat loss is unlikely to impact any wintering bird species present on or near the works site due to the minimal scale, temporary nature and unsuitability of the retaining wall for nesting. No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
	Noise disturbance	The significant proportion of the wintering bird assemblage present , within 1km of the site suggest impacts from noise disturbance are possible. However, the works will not be taking	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance as result of the works is likely to be insignificant. No LSE alone.		disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
Qualifying wintering bird species	Habitat loss	Habitat loss is unlikely to impact any wintering bird species present on or near the works site due to the minimal scale, temporary nature and unsuitability of the retaining wall for nesting. No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
		Red-throated Diver	No	While there is potential for the works to coincide with other projects that will	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
	Noise disturbance	1.1% of the 90 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive) Therefore, this species is likely to be present during the time of works. However, this species is also considered to be unlikely to use the site because it is a seabird and primarily inhabits the marine environment. No LSE alone.		generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Golden Plover Less than 1% of the 2,949 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Scaup No Scaup were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Dunlin Less than 1% of the 9,514 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Ringed Plover 4.6% of the 328 individuals cited for	No	While there is potential for the works to coincide with other projects that will	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive). While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.		generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Long-tailed Duck Less than 1% of the 1,045 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Oystercatcher 1.6% of the 7,846 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive) Therefore, this species is likely to be present during the time of works and may be impacted by noise disturbance. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.			
		Velvet Scoter Less than 1% of the 635 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Common Scoter	No	While there is potential for the works to	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		2.9% of the 2,880 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive) Therefore, this species is likely to be present during the time of works. However, this species is considered to be unlikely to use the site because it is a seabird and primarily inhabits the marine environment No LSE alone.		coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Red-breasted Merganser 1.2% of the 670 individuals cited for this species were recorded within 1km of the works site, suggesting a significant proportion of the population are present near the works site (5yr average from 2021-2026, September-November inclusive). While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Curlew Less than 1% of the 1,928 individuals cited for this species were recorded	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Cormorant 1.6% of the 682 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive). Therefore, this species is likely to be present during the time of works. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Grey Plover Less than 1% of the 724 individuals	No	While there is potential for the works to coincide with other projects that will	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		cited for the Ramsar were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Great Crested Grebe Less than 1% of the 720 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Eider 1.9% of the 9,400 individuals cited for the Ramsar were recorded within 1km of the works site during the period	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		proposed for the works (5yr average from 2021-2026, September-November inclusive). While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.		had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Pink-footed Goose Less than 1% of the 10,852 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Turnstone 3.7% of the 860 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive). Therefore, this species is likely to be present during the time of works and may be impacted by noise disturbance. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.			
		Goldeneye Less than 1% of the 3,004 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Knot Less than 1% of the 9,258 individuals	No	While there is potential for the works to coincide with other projects that will	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		cited for the Ramsar were recorded within 1km of the works site, suggesting minimal presence. Therefore, noise disturbance from the works is deemed unlikely to impact this species (5yr average from 2021-2026, September-November inclusive). No LSE alone.		generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Bar-tailed Godwit Less than 1% of the 1,974 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Slavonian Grebe No Slavonian Grebe individuals were recorded within 1km of the works site, suggesting minimal presence (5yr	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Sandwich Tern Less than 1% of the 1,617 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Shelduck No Shelduck were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive).	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Redshank 1.5% of the 4,341 individuals cited for this species were recorded within 1km of the works site (5yr average from 2021-2026, September-November inclusive). This suggests that a significant proportion of the Ramsar population are likely to be present during the time of works. Therefore, noise disturbance from the works is a possible impact to this species. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
Firth of Forth SPA					
Wintering waterbird assemblage	Habitat loss	There were more than 1% of the 95,000 individuals cited within the SPA recorded within 1km of the works site during the autumn and wintering months (5yr average from 2021-2026, Autumn = 1.2% of assemblage, Winter = 1.2%). This suggests a significant proportion of the wintering waterbird assemblage are likely to be present near the site at the time of works. However, the small scale and temporary nature of the works, and the unsuitability of the works site as nesting habitat suggest there is unlikely to be an impact on the assemblage. No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
	Noise disturbance	The significant proportion of the wintering bird assemblage present, within 1km of the site suggest impacts from noise disturbance are possible. However, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance as result of the works is likely to be insignificant. No LSE alone.		disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
Qualifying wintering bird species	Habitat loss	Habitat loss is unlikely to impact any wintering bird species present on or near the works site due to the minimal scale, temporary nature and unsuitability of the retaining wall for nesting. No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
	Noise disturbance	Red-throated Diver 1.1% of the 90 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		from 2021-2026, September-November inclusive). Therefore, this species is likely to be present during the time of works. However, this species is considered to be unlikely to use the site because it is a seabird and primarily inhabits the marine environment. Therefore, no impacts are anticipated. No LSE alone.		disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Golden Plover Less than 1% of the 2,949 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Slavonian Grebe No individuals were recorded within 1km of the works site, suggesting	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		minimal presence. Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	
		Sandwich Tern Less than 1% of the 1,617 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Pink-footed Goose Less than 1% of the 10,852 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Turnstone More than 3.7% of the 860 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive) Therefore, this species is likely to be present during the time of works and has the potential to be impacted. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the SPA, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the Ramsar, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Knot Less than 1% of the 9,258 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Bar-tailed Godwit Less than 1% of the 1,974 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Shelduck No individuals of this species were	No	While there is potential for the works to coincide with other projects that will	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone.		generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		Redshank 1.5% of the 4,341 individuals cited for this species were recorded within 1km of the works site during the period proposed for the works (5yr average from 2021-2026, September-November inclusive) Therefore, this species is likely to be present during the time of works and may be impacted by noise disturbance. While this number represents a significant proportion of the population of these species within the Ramsar, the works will not be taking place directly on the shores or open water of the Ramsar, but rather within a small channel approximately 100m upstream, with an urban setting, and separated from the works by large building which will provide acoustic screening. Given the distance and barriers between the works and the open waters of the SPA, noise disturbance to this qualifying feature as result of the works is likely to be insignificant. No LSE alone.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
Outer Firth of Forth and St Andrews Bay Complex SPA					
Breeding seabird assemblage	Noise disturbance	Due to the timing of works outside the bird breeding season, breeding birds are not expected to be present during works. Therefore, no impacts are anticipated to the breeding bird assemblage. Zero effect alone.	No	Not possible as there will be zero effect alone.	No
	Habitat loss	The small scale and temporary nature of the works as well as the unsuitability of the works site for nesting mean that the impact of habitat loss on the assemblage is unlikely to be significant (JBA Consulting, 2026). No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
Wintering water and sea bird assemblage	Habitat loss	There were more than 1% of the 20,000 individuals cited for the wintering bird assemblage recorded within 1km of the works site during the autumn and winter period (5yr average from 2021-2026: Autumn = 6.3%, Winter = 5.7%). However, the small scale and temporary nature of the works as well as the unsuitability of the works site for nesting mean that the impact of habitat loss on the assemblage is unlikely to be significant (JBA Consulting, 2026). No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
	Noise disturbance	The significant proportion of the assemblage recorded within 1km of the works site suggest that the assemblage is likely to be present on the site during the time of works (see above) and will therefore be likely to be impacted by noise disturbance. However, the SPA boundary is approximately 200m from the site at its nearest point, and shielded from the works by urban structures and naturally occurring rock formations. Therefore, acoustic impacts will be	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
		greatly reduced, and no significant noise disturbance is expected to impact this qualifying feature. No LSE alone.		No LSE in combination.	
Qualifying wintering bird species	Habitat loss	The section of wall to be reconstructed is small and will be rebuilt using the same stones. Furthermore, the PEA survey (JBA Consulting, 2026) did not consider the wall itself as a likely nesting habitat due to frequent tidal inundation. Therefore, impacts are unlikely to be significant. No LSE alone.	No	Following industry standard practice reduces the risk of habitat loss through pollution or spread of INNS to negligible. Furthermore, it is to be expected that any other projects concurrent with the proposed works would also implement industry standard measures, at minimum. It is therefore considered extremely unlikely that the proposed works could result in habitats loss in combination with any other project. No LSE in combination.	No
	Noise disturbance	Red-throated Diver Less than 1% of the 851 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species.	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there	No

Qualifying Feature	Hazard	LSE alone?	Yes/ No	LSE in combination?	Yes/ No
		No LSE alone.		should be no impacts in combination. No LSE in combination.	
		Little Gull No individuals were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No
		Slavonian Grebe No individuals were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination.	No

Qualifying Feature	Hazard	LSE alone?	Yes/No	LSE in combination?	Yes/No
				No LSE in combination.	
		Eider Less than 1% of the 21,546 individuals cited for this species were recorded within 1km of the works site, suggesting minimal presence (5yr average from 2021-2026, September-November inclusive). Therefore, noise disturbance from the works is deemed unlikely to impact this species. No LSE alone	No	While there is potential for the works to coincide with other projects that will generate noise, such projects happening within the same timeframe will also have had to consider the potential for noise disturbance on qualifying features of the local European sites. Such project will either not produce such noise disturbance, or put in place mitigation to prevent disturbance, therefore there should be no impacts in combination. No LSE in combination.	No

5.4 Screening statement and conclusions

This screening assessment has considered the impact of the proposed works at Lower Largo on the qualifying features of the European designated sites within an impactable range of the proposed works site.

We identify that the breeding bird assemblage of the Outer Firth of Forth and St Andrews Bay Complex will not be impacted by the proposed works due to the works occurring outside the breeding bird season.

We conclude that there is no likely significant effect of habitat loss on the qualifying features of the Firth of Forth Ramsar and SPA and the Outer Firth of Forth and St Andrews Bay Complex SPA. While the works will generate additional noise, this is considered unlikely to have a significant impact on any qualifying features of the European designated sites, even where key species are present in larger numbers.

With likely significant effects screened out, the retaining wall repairs are considered unlikely to have any significant negative impacts on the Firth of Forth Ramsar and SPA or the Outer Firth of Forth and St Andrews Bay Complex SPA.

A Key Characteristics of European Sites

A.1 European sites qualifying features

Table A 1, below, details the qualifying features of the European sites and sites of international importance with potential connectivity to the proposed works.

Tab. A-1: Identified European sites and their qualifying features

European site	Complete list of qualifying features
Firth of Forth Ramsar	Ramsar Criterion 2: Supports vulnerable, endangered, or critically endangered species: Red-throated Diver <i>Gavia stellata</i> (90 individuals, 2% of the GB population) Golden Plover <i>Pluvialis apricaria</i> (2,949 individuals, 1% of the GB population) Ramsar Criterion 4 by supporting waterbird species at a critical stage in their life cycles: Scaup <i>Aythya marila</i> (437 individuals, 4% of the GB population). Great Crested Grebe <i>Podiceps cristatus</i> (720 individuals, 7% of the GB population). Cormorant <i>Phalacrocorax carbo</i> (682 individuals, 5% of the GB population). Curlew <i>Numenius arquata</i> (1,928 individuals, 2% of the GB population). Eider <i>Somateria mollissima</i> (9,400 individuals, 13% of the GB population). Long-tailed Duck <i>Clangula hyemalis</i> (1,045 individuals, 4% of the GB population). Common Scoter <i>Melanitta nigra</i> (2,880 individuals, 8% of the GB population). Velvet Scoter <i>Melanitta fusca</i> (635 individuals, 21% of the GB population). Red-breasted Merganser <i>Mergus serrator</i> (670 individuals, 7% of the GB population).

European site	Complete list of qualifying features
	Oystercatcher <i>Haematopus ostralegus</i> (7,846 individuals, 2% of the GB population). Ringed Plover <i>Charadrius hiaticula</i> (328 individuals, 1% of the GB population). Grey plover <i>Pluvialis squatarola</i> (724 individuals, 2% of the GB population). Dunlin <i>Calidris alpina alpina</i> (9,514 individuals, 2% of the GB population). Assemblage including nationally important populations greater than 2,000 individuals of: Mallard <i>Anas platyrhynchos</i> (2,564 individuals, 0.5% of the GB population). Lapwing <i>Vanellus vanellus</i> (4,148 individuals, 0.3% of the GB population). Wigeon <i>Anas penelope</i> (2,139 individuals, 0.78% of the GB population). Red-throated Diver, Golden Plover, Slavonian Grebe, Pink-footed Goose, Shelduck, Knot, Redshank, Turnstone, Goldeneye and Bar-tailed Godwit are also components of the waterbird assemblage. Ramsar Criterion 5: supporting waterbirds in numbers of 20,000 individuals or more. In the five-year period 1992/93 to 1996/97, a winter peak mean of 95,000 individual waterbirds was recorded, comprising 45,000 wildfowl and 50,000 waders. Ramsar Criterion 6: supporting species/populations occurring at levels of international importance:

European site	Complete list of qualifying features
	Slavonian Grebe <i>Podiceps auritus</i> (84 individuals, 2% of the Northwest Europe biogeographic population). Pink-footed Goose <i>Anser brachyrhynchus</i> (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population). Shelduck <i>Tadorna tadorna</i> (4,509 individuals, 2% of the North-western Europe biogeographic population). Knot <i>Calidris canutus</i> (9,258 individuals, 3% of the NE Canada & Greenland/W Europe biogeographic population). Redshank <i>Tringa totanus</i> (4,341 individuals, 3% of the Eastern Atlantic biogeographic population). Turnstone <i>Arenaria interpres</i> (860 individuals, 1% of the NE Canada & Greenland/W Europe & NW Africa biogeographic population). Goldeneye <i>Bucephala clangula</i> (3,004 individuals, 1% of the NW & C Europe biogeographic population). Bar-tailed Godwit <i>Limosa lapponica</i> (1,974 individuals, 2% of the Western European biogeographic population). Sandwich tern <i>Sterna sandvicensis</i> during the passage period (a winter peak mean of 1,617 individuals, 1% of the Europe and West Africa biogeographic population).

Firth of Forth SPA

Article 4.1 by regularly supporting populations of European importance of the Annex 1 species:

Red-throated Diver *Gavia stellata* (90 individuals, 2% of the GB population).

Slavonian Grebe *Podiceps auritus* (84 individuals, 21% of the GB population).

Golden Plover *Pluvialis apricaria* (2,949 individuals, 1% of the GB population).

Bar-tailed Godwit *Limosa lapponica* (1,974 individuals, 4% of the GB population).

Sandwich Tern *Sterna sandvicensis* on-passage (a winter peak mean during the five year period 1993/94 to 1997/98 of 1,617 individuals, 6% of the GB population).

Article 4.2 by regularly supporting populations of European importance of the migratory species:

Pink-footed goose *Anser brachyrhynchus* (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population).

Shelduck *Tadorna tadorna* (4,509 individuals, 2% of the North-western Europe biogeographic population).

Knot *Calidris canutus* (9,258 individuals, 3% of the North-eastern Canada/Greenland/Iceland/North-western Europe biogeographic population).

Redshank *Tringa totanus* (4,341 individuals, 3% of the Eastern Atlantic biogeographic population).

Turnstone *Arenaria interpres* (860 individuals, 1% of the Western Palearctic biogeographic population).

Article 4.2 by regularly supporting in excess of 20,000 individual waterfowl including nationally important populations of the following species:

Scaup *Aythya marila* (437 individuals, 4% of the GB population).

Slavonian Grebe (84 individuals).

Golden plover (2,949 individuals).

Bar-tailed Godwit (1974 individuals).

Pink-footed goose (10,852 individuals, 6%

of the GB population).

Shelduck (4,509 individuals, 6% of the GB population).

Knot (9258 individuals, 3% of the GB population).

Redshank (4,341 individuals, 4% of the GB population).

Turnstone (860 individuals, 1% of the GB population).

Great Crested Grebe *Podiceps cristatus* (720 individuals, 7% of the GB population).

Cormorant *Phalacrocorax carbo* (682 individuals, 5% of the GB population).

Red-throated Diver (90 individuals).

Curlew *Numenius arquata* (1,928 individuals, 2% of the GB population).

Eider *Somateria mollissima* (9,400 individuals, 13% of the GB population).

Long-tailed Duck *Clangula hyemalis* (1,045 individuals, 4% of the GB population).

Common Scoter *Melanitta nigra* (2,880 individuals, 8% of the GB population).

Velvet Scoter *Melanitta fusca* (635 individuals, 21% of the GB population).

Goldeneye *Bucephala clangula* (3,004 individuals, 18% of the GB population).

Red-breasted Merganser *Mergus serrator* (670 individuals, 7% of the GB population).

Oystercatcher *Haematopus ostralegus* (7,846 individuals, 2% of the GB population).

Ringed plover *Charadrius hiaticula* (328 individuals, 1% of the GB population).

Grey plover *Pluvialis squatarola* (724 individuals, 2% of the GB population).

Dunlin *Calidris alpina alpina* (9,514 individuals, 2% of the GB population).

Mallard *Anas platyrhynchos* (2,564 individuals, 0.5% of the GB population).

Lapwing *Vanellus vanellus* (4,148 individuals, 0.3% of the GB population).

Wigeon *Anas penelope* (2,139 individuals, 0.78% of the GB population).

European site	Complete list of qualifying features
Outer Firth of Forth and St Andrews Bay Complex SPA	Article 4.1 by regularly supporting populations of European importance of the Annex 1 species over winter: Red-throated Diver <i>Gavia stellata</i> (5% of the GB population). Slavonian Grebe <i>Podiceps auritus</i>, (2.7% of the GB population). Little Gull <i>Larus minutus</i> (more than 50 individuals). By regularly supporting populations of European importance of the Annex 1 species in the breeding season: Arctic Tern <i>Sterna paradisaea</i> (1.2% of the GB population). Common Tern <i>Sterna hirundo</i> (8.8% of the GB population). Article 4.2 by regularly supporting populations of the following species on winter: Eider <i>Somateria mollissima</i> (2.1% of the biogeographic population). By regularly supporting populations of the following species in the breeding season: European Shag <i>Phalacrocorax aristotelis</i> (1.7% of the biogeographic population). Northern Gannet <i>Morus bassanus</i> (1.4% of the biogeographic population). Article 4.2 by supporting an internationally important assemblage of birds in the non-breeding in excess of 30,500 individual waterbirds, and an internationally important assemblage of birds in the non-breeding season that supports in excess of 20,000 individual waterbirds including: Long-tailed Duck <i>Clangula hyemalis</i> Common Scoter <i>Melanitta nigra</i> Red-throated Diver Eider <i>Somateria mollissima</i> Velvet Scoter <i>Melanitta fusca</i> Goldeneye <i>Bucephala clangula</i> Red-breasted merganser <i>Mergus serrator</i> Slavonian Grebe

European site	Complete list of qualifying features
	An internationally important assemblage of birds in the breeding season regularly supports 122,245 individual seabirds, and an internationally important assemblage of birds in the breeding season regularly supports in excess of 20,000 individual seabirds including: Puffin <i>Fratercula arctica</i> Black-legged kittiwake <i>Rissa tridactyla</i> Manx shearwater <i>Puffinus puffinus</i> Common Guillemot <i>Uria aalge</i> European Herring Gull <i>Larus argentatus</i> Arctic Tern Common Tern European Shag Northern Gannet An internationally important assemblage of birds in the non-breeding season regularly supports 44,628 individual seabirds and an internationally important assemblage of birds in the non-breeding season regularly supports in excess of 20,000 individual seabirds including: Black-headed Gull Common Gull European Herring Gull An internationally important assemblage of birds in the non-breeding season the area regularly supports in excess of 20,000 individual seabirds including: Common Guillemot European Shag Black-legged Kittiwake Razorbill Little Gull

A.2 European sites conservation objectives

Table A 2, details the conservation objectives for the European sites and sites of international importance in proximity to the proposed works.

Tab. A-2: Identified European sites and their qualifying features

European site	Conservation objectives
Firth of Forth SPA and Outer Firth of Forth and St Andrews Bay Complex SPA	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: • Population of the species as a viable component of the site • Distribution of the species within site • Distribution and extent of habitats supporting the species • Structure, function and supporting processes of habitats supporting the species • No significant disturbance of the species.

A.3 European sites key threats

Table A 3, below, details the key threats and vulnerabilities identified in relation to the European sites and sites of international importance in proximity to the proposed works.

Tab. A-3: Key threats and vulnerabilities for identified sites

European site	Key threats and vulnerabilities
Firth of Forth Ramsar	• Recreation / Disturbance • Climate Change • Game/ fisheries management • Natural event • Water quality

European site	Key threats and vulnerabilities
Firth of Forth SPA	• Marine water pollution • Invasive non-native species • Fishing and harvesting aquatic resources • Human induced changes in hydraulic conditions • Changes in abiotic conditions • Changes in biotic conditions • Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.) • Utility and service lines • Renewable abiotic energy use • Outdoor sports and leisure activities, recreational activities • Marine and Freshwater Aquaculture • Other ecosystem modifications • Modification of cultivation practices • Exploration and extraction of oil or gas • Pollution to surface waters (limnic & terrestrial, marine & brackish)
Outer Firth of Forth and St Andrews Bay Complex SPA	• Marine and Freshwater Aquaculture • Fishing and harvesting aquatic resources • Outdoor sports and leisure activities, recreational activities • Hunting, fishing or collecting activities not referred to above • Utility and service lines • Shipping lanes, ports, marine constructions • Changes in abiotic conditions • Changes in biotic conditions • Marine water pollution • Discharges

European site	Key threats and vulnerabilities
	• Other human intrusions and disturbances • Renewable abiotic energy use • Airports, flightpaths • Pollution to surface waters (limnic & terrestrial, marine & brackish) • Other ecosystem modifications

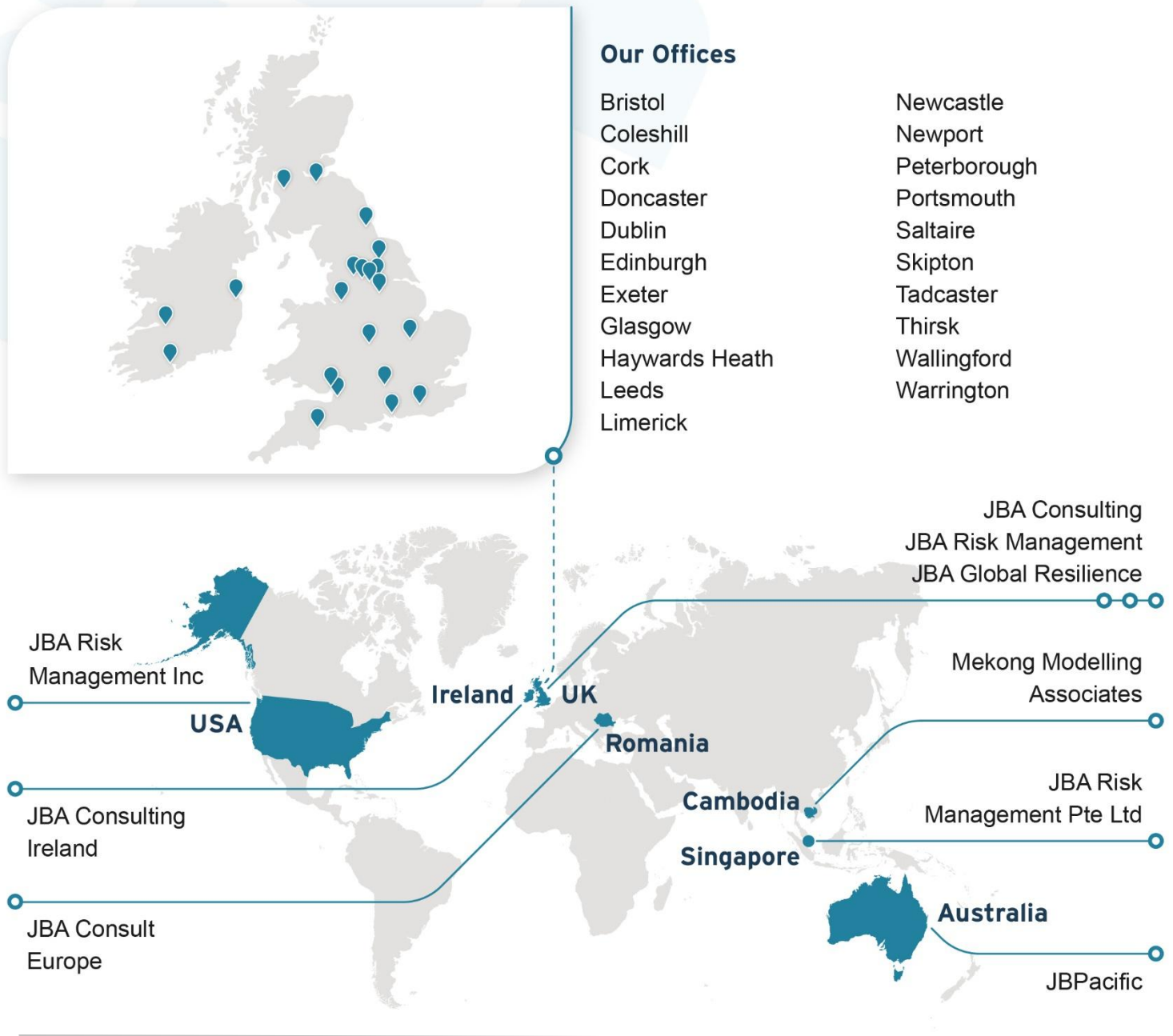
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