Alun Griffiths Contracting Ltd

Bangor Scour Protection Works

Habitats Regulations Assessment Report

COMMERCIAL IN CONFIDENCE

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1.0	09.05.25	All	All	Report for MLA application	MH
2.0	18.07.2025	2.1, 5.2	6-7, 24	Updated to rock size used in RAMS, figure of works, and coastal squeeze assessment conclusions	NO

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1. Introduction

1.1 Overview

Proposed plans or projects that have the potential to affect European Sites (defined in Section 3.1.1 and 3.1.2) are required to be considered through the Habitats Regulations Assessment (HRA) process under The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Habitats and Species Regulations 2017 (as amended[1]) (henceforth known as the Habitats Regulations).

This Habitat Regulations Assessment screening report considers the scope of work (SoW) activities (hereafter referred to as 'SoW' or 'proposed works') required for the scour protection works at Bangor Beach Road Sewage Pumping Station, North Wales to improve storm overflow.

The report provides the information required by Natural Resources Wales (NRW) to fulfil its function as a 'Competent Authority' under the Habitat Regulations and determine if the proposed works are likely to have a significant effect on the conservation objectives of a European Site, either alone, or in-combination with other plans or projects.

1.2 Project Details

The Proposed Works are part a wider project known as The Welsh Water Menai Shellfish project, which is aimed at improving the Storm Overflow performance from the Bangor Beach Road Sewage Pumping Station (Treborth Catchment, Bangor). This pumping station is one of four assets that fall under the Asset Management Plan (AMP) 7 National Environmental Programme (NEP) to meet the Shellfish Water Directive of a maximum of 10 spills per year for the Menai Strait.

A Root Cause Assessment (RCA) was undertaken for the whole catchment which led to a focus on Bangor Beach Road. The assessment report summarises the findings from the catchment wide investigations, hydraulic modelling and outlines the proposed interventions to reduce spills to the Menai Strait Shellfish waters.

[1] https://www.legislation.gov.uk/uksi/2017/1013/contents/made

The Treborth catchment has one wastewater treatment works, which serves a population of 20,668. The wastewater network consists of a foul gravity collection system with pockets of combined storm sewerage in discrete areas across Bangor. The gravity system is served by seven key sewage pumping stations (each with a consented storm overflow) which discharge to Treborth wastewater treatment works.

The wider project will include:

- A new 4,300 m^3 storage tank below an adjacent football pitch, with cleaning systems optimised for minimal maintenance requirements. The tank is to be designed to operate with buried covers.
- Gravity storm tank return (with a discharge flow control) to a manhole upstream of the pumping station and Emergency Overflow from the tank back to a pump well. The return flow control is to be linked to the pump inlet levels and is optimised to empty the tank as quickly as possible without causing recirculation or premature spills.
- The gravity return flow control will be designed to prevent flow recirculation and overflow.
- Scour protection of revetment works (approximately 40 m^2) will be installed to protect the structure, including excavation of beach material.

This HRA screening report relates solely to the scour protection works marine licence application (MLA). The aim is to complete the scour protection works by September 2025 (Griffiths, 2025a).

1.3 Habitats Regulations Assessments

The Habitats Regulations require that an Appropriate Assessment (AA) of the implications of any development consent must be made by the relevant competent authority, in this case NRW, if a project (or plan) is likely to have a significant effect on the Conservation Objectives (COs) of a European Site, either alone, or in-combination with other plans or projects.

HRA is generally understood to be a progressive, four stage process which determines Likely Significant Effect (LSE) and, where required, assesses potential adverse impacts on the integrity of a European Site, examines alternative solutions and provides justification of Imperative Reasons of Overriding Public Interest (IROPI) (The Planning Inspectorate, 2017). Further detail on the process followed and the definition of particular terms, is provided in the methodology section (Section 3).

1.4 Structure and Purpose of the Report

This report provides information on the work activities and the HRA Screening and AA process. The report records the process and presents the results and conclusion.

The report provides information to allow NRW (as the Competent Authority) to determine whether there will be an adverse effect on the integrity of any European Site(s) in view of their COs as a result of the project.

In the context of a HRA, where the potential for LSE cannot be excluded for a Site, a Competent Authority must make an AA of the implications of the plan or project for that site, in view of the Site's COs. The Competent Authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the European Site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are IROPI and if the necessary compensatory measures can be secured.

2. The Proposed Works

2.1 Location and Context

The scour protection works will be installed at the top of the beach at Bangor Promenade to the northeast of Bangor, north Wales. The site is located on a grassed recreation ground (used as a football pitch) bounded by Beach Road to the south and the seafront promenade to the north-east. To the west, the Site is bounded by a car park and a small building housing changing rooms and a pump station. Approximately 200 tonnes (T) of excavated beach material will be stockpiled above Mean High Water Springs (MHWS). The scour protection works will occur across an approximate 40 m^2 stretch along the seawall to protect the revetment works.

The site location is indicated in Figure 1 and is centred at National Grid Reference 258704 372826.

Figure 1. The location for the overall wider project.

2.1 Summary of Proposed Works

The objective of the scour protection works is to improve the storm overflow performance from the Bangor Beach Road Sewage Pumping Station to comply with the Shellfish Water Directive. Part of these works will include providing scour protection between the existing revetment (approximately 40 m^2) and newly installed sheet piles on the foreshore. Works have been planned to avoid night time working where possible. Site construction hours will be Monday to Friday 07:30 – 18:00, and 08:00 - 16:00 on Saturday and Sunday (Griffiths, 2025b). The aim will be to complete the scour protection works by September 2025, with a design life of 50 years.

The scour protection works and works below MHWS will include the following:

- Excavation of granular material from the scour protection work area will be conducted using a tracked excavator with demolition cab to the specified depth (to be confirmed with final design).
- All excavation works will occur during good weather and during low tide periods (Griffiths, 2025a).
- All material will be removed off the beach via forward tipping dumper (FTD) (approximately 200 T) to be stockpiled in the main site compound away from the work area above MHWS.
- Rock armour for the scour protection will be loaded into the FTD at the loading area and transported across the beach and tipped into the material laydown area, the transportation of the material across site will be below the MHWS line, however, the loading area and laydown area will both be above MHWS. There are two sizes of rock that will form the scour protection with the underlayer rock material being DN50,u=0.408 m in diameter and the primary surface layer of rock being Dn50,u=0.626 m in diameter.
- The rock armour used for the scour protection works will be cleaned and jet washed prior to installation to reduce the risk of any residual silt entering the marine environment and the spread of invasive non-native species.
- The FTD will travel along the designated route from the ramp onto the beach at Beach Road East car park to the works area. All heavy machinery operations will occur during low tide periods to minimise risks of flooding and provide a stable work surface (Griffiths, 2025a).
- The ground level at the foot of the revetment will be raised to the specified level using the core ground material (exact material TBC by final design). This will form the base of the scour protection (see Figure 2).

- The underlayer of rock will be placed on top of the core ground material using the grab attachment on the excavator in two layers. The primary layer of rock will then be placed on top of the underlayer, also using the excavator grab attachment, until the whole area has been covered (see Figure 2).
- Once the scour protection system has been constructed, the surrounding area will be carefully reinstated to the original level and to the original state prior to works being carried out, using the stockpiled excavated material.

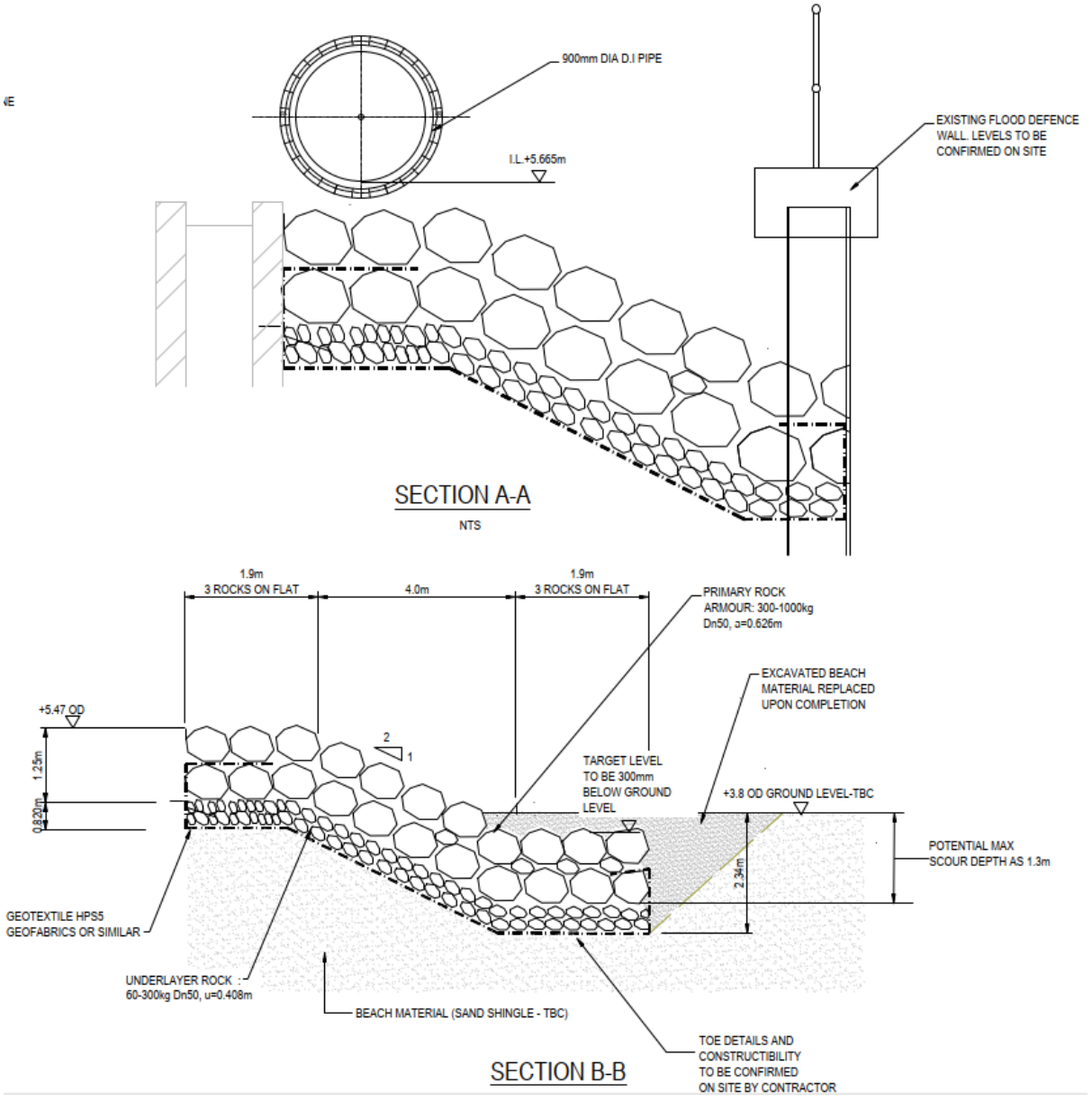

Figure 2. Cross section of the scour protection works (source: Griffiths, 2025a)

The primary equipment and plant required for the works are listed below:

- CAT and Genny;
- Insulated hand tools;
- Compound welfare units COSHH and stores facility;
- Emergency response items (i.e. spill kits, plant nappies, first aid kits, fire stations and extinguishers etc.);
- Confined space emergency response kit;
- Heras fencing and all associated clips and feet etc;
- Tracked excavator with demolition cab; and
- FTD.

3. Assessment Methodology

3.1 Legislative and Policy Context

3.1.1 UK (domestic) Legislation

This section describes the legislation as it applies now that the UK has left the European Union (EU). Guidance from the Department for Environment, Food, and Rural Affairs (DEFRA) has been provided on the application of the relevant legislation in the post-Brexit period in their policy paper published on 1st January 2021[2]. The Habitats Regulations provide for the protection of particular habitats, plants and animals through the creation of, and specific decision-making procedures applied to, the 'national site network' (Regulation 3 'Interpretation'). This 'national site network' consists of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) that were designated both in that period when the UK was a member of the EU and since the UK left the EU.

Since the Defra guidance and those particular parts of the Habitats Regulations relating to the HRA process continue to refer to designated sites collectively as 'European Sites', that approach has been followed in this HRA Screening report.

3.1.2 Policy Requirements Additional to Domestic Legislation

It is UK Government policy that all competent authorities should treat candidate SACs (cSACs) and potential SPAs (pSPAs) as being within the requirements of the Habitats Regulations. In the UK this is identified in paragraph 176 of the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2019).

Accordingly, in this report the term 'European Site' is used to refer collectively to SACs, cSACs, SPAs and pSPAs.

3.1.3 International Legal and Policy Obligations

The UK is a contracting party to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, Iran, 1971 (the 'Ramsar Convention'), which seeks

[2] Available at: https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017.

to protect wetlands of international importance, especially those wetlands utilised as waterfowl habitat.

It is UK Government policy that all competent authorities should treat Ramsar Sites in their decision-making processes as if they are SACs or SPAs and hence Ramsar Sites are considered within the requirements for HRA of the Habitats Regulations. As a consequence, in this report Ramsar Sites are referred to alongside European Sites collectively as European and Ramsar Sites.

3.1.4 Areas that are Functionally Linked to European and Ramsar Sites

Animals that are interest features of European and Ramsar Sites may be mobile and not confined to the boundary of the designated site. For example, wintering waterbirds may forage or roost on agricultural land outside of the designated site. Although that agricultural land is not part of the European or Ramsar Site, it is 'functionally linked' because it serves a function for waterfowl that are interest features of the designated site. Account has to be taken of such functionally linked land in the HRA process since, for instance, the loss of such land to development could potentially adversely affect the survival of those wintering waterbirds and lead to a reduction in the population of birds within the designated site.

Functionally linked land has been defined as follows (Chapman & Tyldesley, 2016):

"*The term 'functional linkage' refers to the role or 'function' that land or sea beyond the boundary of a European Site might fulfil in terms of ecologically supporting the populations for which the site was designated or classified. Such land is therefore 'linked' to the European Site in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status*."

3.2 The HRA Process

3.2.1 Overview

The requirements of the Habitats Regulations with regard to the implications of plans or projects are set out within Regulation 63. The step-based approach implicit within this Regulation is referred to as a 'Habitats Regulations Assessment' (HRA), which is the term that has been used throughout this report.

It is a requirement of any public body, referred to as a 'competent authority' within the Habitats Regulations, to carry out a HRA when they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project. Competent authorities are required to record the process undertaken, ensuring that there will be no

adverse effects on the integrity of any European or Ramsar Site as a result of a plan or project whether alone, or in combination with other plans or projects.

3.2.2 Assessment Stages

The assessment of a plan or project goes through a number of stages, with guidance having been published to aid competent authorities to fulfil their responsibilities. Those stages are summarised in Table 1.

Table 1. Stages in the HRA process

Stage	Description	Legislative Context
Purpose	Determines if the purpose of the plan or project is directly connected with, or necessary, to the management of a European or Ramsar Site. If it is, then no further assessment is necessary.	Regulation 63(1)(b)
Scoping	The identification of any European or Ramsar Site that might be within scope of a HRA i.e. those sites that should be taken forward to the screening stage based on a wide consideration of spatial and ecological factors. Such a site may be located within the plan or project area but may also include sites located in neighbouring authority areas.	
Screening	Assessment of whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on any qualifying feature (habitats and species) and the achievement of the conservation objectives of a European or Ramsar Site. This is also known as the 'test of likely significant effect' (ToLSE).	Regulation 63(1)(a)
AA	Consideration of the effects of the proposals to determine whether or not it is possible to conclude with certainty that the development will not result in any adverse effect on the integrity of European or Ramsar Site, either alone or in combination with other plans or projects and with reference to the conservation objectives of the European or Ramsar Site. This is also known as the test of 'adverse effect on integrity' (AEoI). At this stage consent may be granted for the plan or project if it is possible to conclude with certainty that the proposal will not result in any adverse effect on the integrity of any European or Ramsar Site, either alone or in combination with other plans or projects.	Regulation 63(5)
If it cannot be concluded with certainty that the proposal will not result in any adverse effect on the integrity of any European or Ramsar Site then proceed to:		
Assessment of alternative solutions	Assess whether there is an alternative solution to the plan or project i.e. one that better respect the European or Ramsar Sites. If no such alternative solution exists, the process continues to Assessment of IROPI.	Regulation 64(1)

Stage	Description	Legislative Context
Assessment of IROPI	Assess whether a plan or project can be justified as being needed for 'imperative reasons of overriding public interest' (IROPI).	Regulation 64(1)
Compensatory measures	Identify and secure any necessary compensatory measures to ensure that the overall coherence of the 'national site network' is protected.	Regulation 68

3.2.3 In-combination Assessment

The Habitats Regulations, taken with Government policy, require the consideration of the potential effects of a project on European and Ramsar Sites both alone and in-combination with other plans or projects.

The identification of plans and projects to include in the in-combination assessment will be based on:

- Approved plans;
- Approved, but as yet unconstructed projects; and
- Projects for which an application has been made, are currently under consideration and will be consented before the proposed development is operational.

3.3 Guidance on the HRA Process

In preparing this report, consideration has been given to the relevant guidance issued by a number of Governmental, statutory and industry bodies.

Guidance from Government bodies includes:

- Ministry of Housing, Communities and Local Government online Guidance on the use of Habitats Regulations Assessment (online); and
- Defra, NE, Welsh Government and NRW guidance on Habitat Regulations Assessments (online).

Guidance from the Statutory Bodies includes:

- NRW online guidance on HRA in the marine licensing process (online).

4. Identification of European and Ramsar Sites and Features Potentially Affected by the Proposed Works

4.1 European and Ramsar Site Identification Process

For the screening process, European and Ramsar Sites in the vicinity of the proposed works activities which could potentially be influenced by the proposed works were identified. The different interest features within these sites were then considered individually.

It only requires one site interest feature to be considered to be potentially impacted by the work activities for the European and/or Ramsar Site to be screened into the HRA, along with each of its associated interest features.

This screening used the conceptual 'source-pathway-receptor' model. The model was used to identify potential environmental effects resulting from the works activities. This process provides an easy-to-follow assessment route between impact sources and potentially sensitive receptors ensuring a transparent impact assessment. The parameters of the model are defined as follows:

- Source – the origin of a potential effect (noting that one source may have several pathways and receptors);
- Pathway – the means by which the effect of the activity could impact a receptor; and
- Receptor – the element of the receiving environment that is impacted.

Where there is no pathway, or the pathway is so long that the effect from the source has dissipated to a negligible level before reaching the receptor, there is justification for the screening out of that particular receptor.

Where the receptor (site interest feature) only occurs in the area on a seasonal basis and/or that receptor is not present in the period in which particular activities of the proposed works are a source of a potential effect, there is justification for the screening out of that particular receptor.

4.2 Potential European and Ramsar Site (receptors)

The proposed works are in a localised area next to the Menai Strait. The following criteria were used to identify European and Ramsar sites that should be taken through to screening based on the project's zone of influence (ZoI) and taking a precautionary approach.

For benthic habitat features, a 2 km ZoI was applied. Given the nature of the activities, potential effects will be restricted to localised disturbance distances largely within the area of the works, so the 2 km buffer is considered highly precautionary for benthic habitat features.

No marine mammal designated sites have been considered in this screening assessment due to the nature of the works being small scale, with all scour protection works are to be undertaken at low tide (Griffiths, 2025a), removing any potential for impact pathways to marine mammal receptors.

For birds, the ZoI has been considered on a species-specific basis using recommended foraging ranges from literature (Woodward *et al.,* 2019; SNH, 2016) or industry standard ranges, appropriate to the works being undertaken. As with marine mammal receptors, there have not been any identified impact pathways associated with seabirds as the works will occur in the intertidal zone and terrestrial environments at low tide, and are small scale.

Criteria for wading birds included a 10 km buffer, 20 km buffer for geese and 60 km buffer for foraging terns, based on mean max plus one Standard Deviation (SD) foraging range of 57.5 km for Sandwich tern, (Woodward *et al.,* 2023). Gulls (e.g. little gull *Hydrocoloeus minutus*) may also forage in this area, however gulls are known to be tolerant to anthropogenic noise and disturbance, classified with low sensitivity and high resilience to noise, as detailed in Natural England's Advice on Operations (AoO) for Liverpool Bay SPA [3]. For these reasons gull species have not been included in the foraging ranges screening assessment.

Using these screening criteria, the European and Ramsar Sites that have been identified for the assessment are as follows and are indicated in Figure 3, Figure 4 and Figure 5:

SACs

- Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay

[3] https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9020294&SiteName=SPA&SiteNameDisplay=Liverpool+Bay+%2f+Bae+Lerpwl+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=5

SPAs

- Traeth Lafan/Lavan Sand
- Anglesey Terns / Morwenoliaid Ynys Môn
- Liverpool Bay
- The Dee Estuary

Several SPAs indicated in Figure 4 have not been taken into the screening assessment in Section 6, due to the proposed works being located outside the mean foraging ranges of designated features, or being a terrestrial designation for terrestrial features. These designations include:

- Ynys Seiriol / Puffin Island: found within the 20 km buffer, designated for *Phalacrocorax carbo* (cormorant).
- Glannau Ynys Gybi/ Holy Island Coast: found within 60 km buffer, designated for *Pyrrhocorax pyrrhocorax* (chough).
- Migneint-Arenig-Dduallt: found within 60 km buffer, designated for terrestrial species.
- Glannau Aberdaron ac Ynys Enlli/ Aberdaron Coast and Bardsey Island: found within 60km buffer, designated for *Puffinus puffinus* (Manx shearwater) and chough.
- Northern Cardigan Bay / Gogledd Bae Ceredigion: found within 60 km buffer, designated for *Gavia stellata* (red-throated diver)
- Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal: found within 60 km buffer, designated for chough.
- Berwyn: found within 60 km buffer, designated for terrestrial species.

Ramsar

All the Ramsar sites identified (Figure 5) have not been taken into the screening assessment in Section 6, as they have not been designated for, or support species that could be affected by the works, and they are all more than 10 km away from the works. These sites include:

- Llyn Tegid
- Llyn Idwal
- Corsydd Mon a Llyn / Anglesey and Llyn Fens

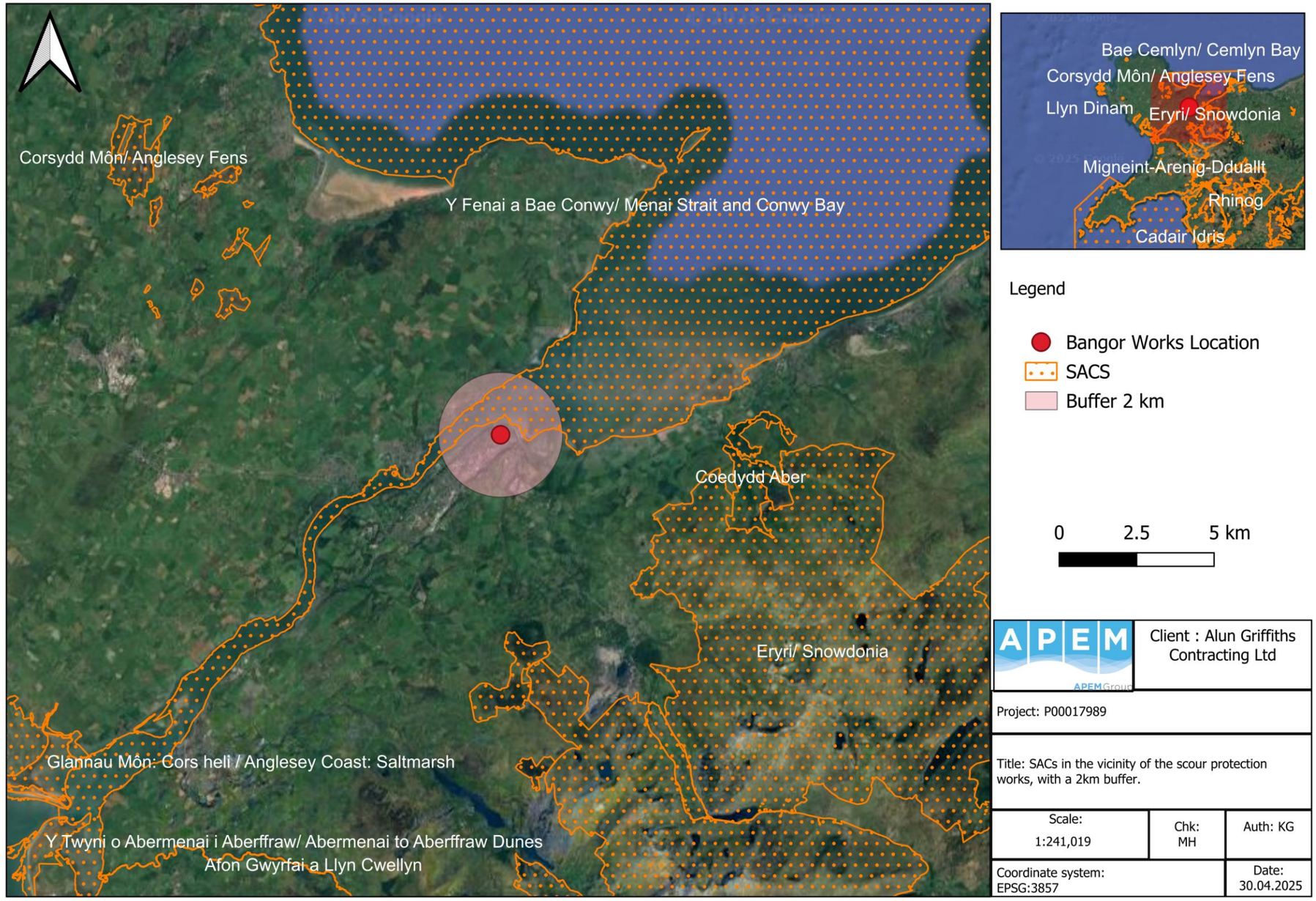

Figure 3. SACs within the vicinity of the proposed works (the 2 km buffer includes SACs taken into the HRA screening assessment).

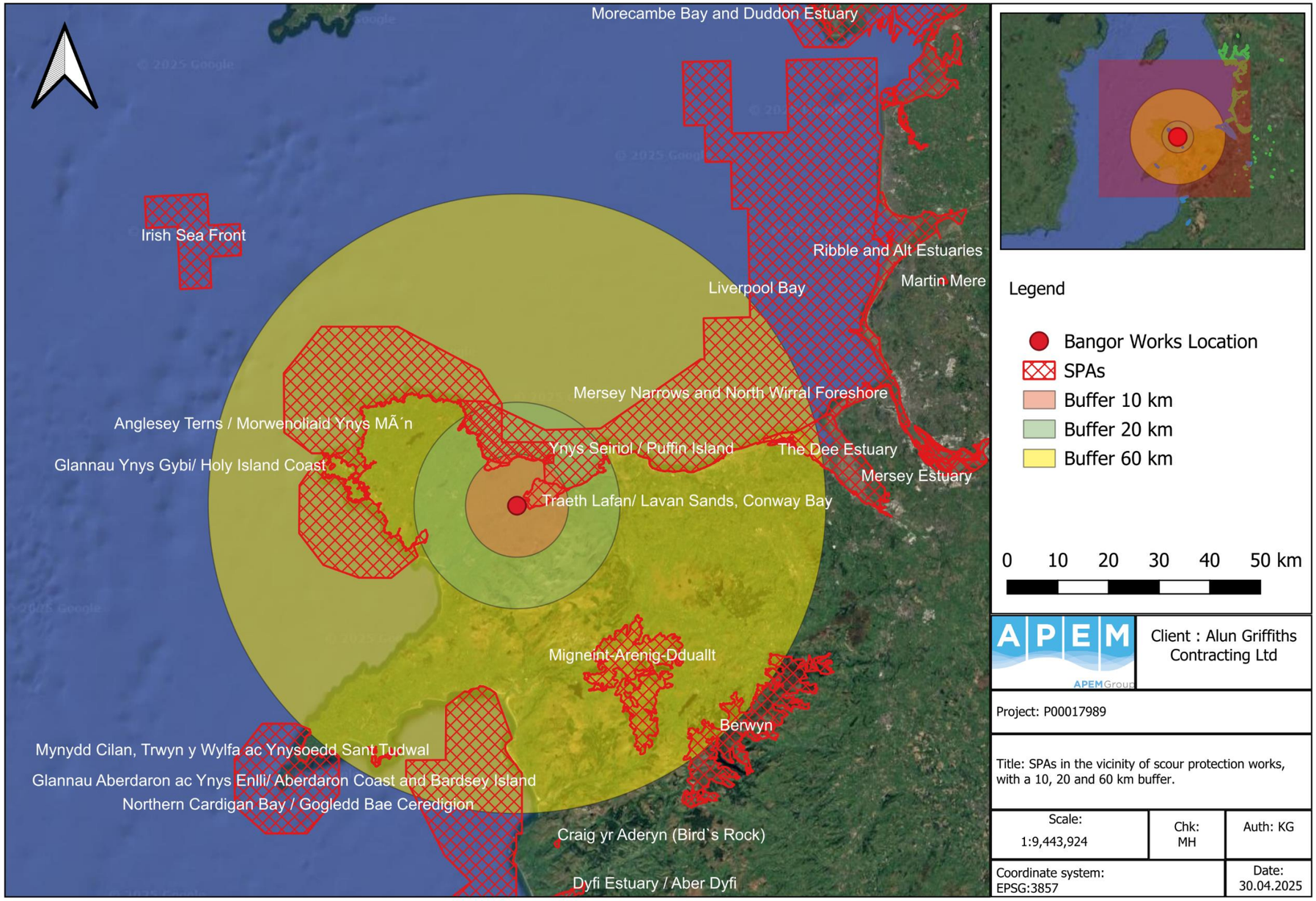

Figure 4. SPAs within the vicinity of the proposed works (the 60 km buffer includes SPAs taken into the HRA screening assessment).

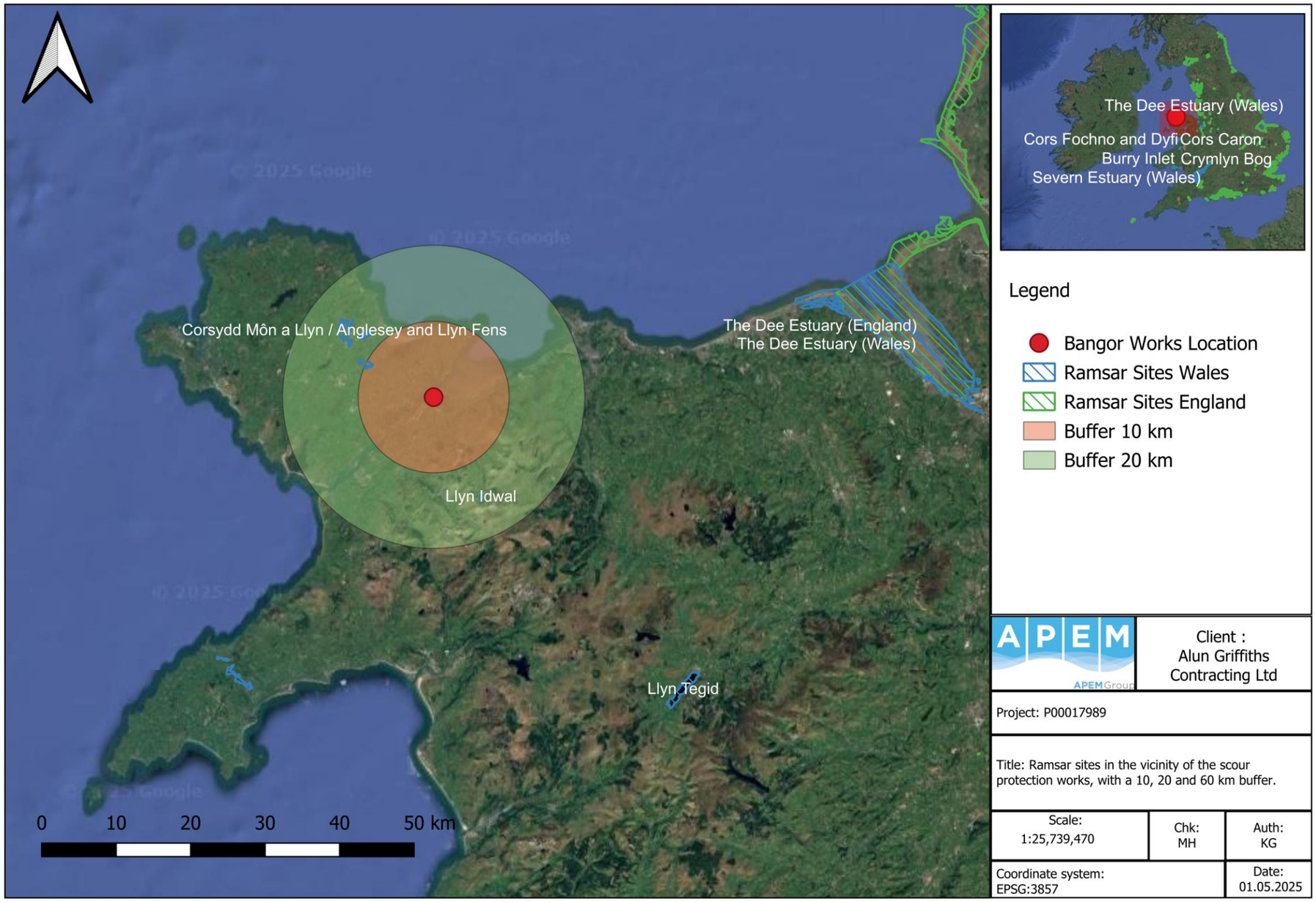

Figure 5. Ramsar Sites within the vicinity of the proposed works.

4.3 European and Ramsar Site Features of Interest

Qualifying features of the European sites that met the screening criteria indicated in Section 4.2 and the distance of these sites from the works area are indicated in Table 2. Note that no Ramsar sites met the screening criteria.

Table 2. European and Ramsar Sites scoped into the assessment based on NRW guidance and/or are within the ZoI (relevant to qualifying features) of the proposed works. *= Priority, numbers in brackets are site codes.

Site	Distance from works area (km)	Qualifying Features
SACs		
Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC (UK0030202)	0.41	[1110] Sandbanks which are slightly covered by sea water all the time [1140] Mudflats and sandflats not covered by seawater at low tide [1170] Reefs [1160] Large shallow inlets and bays [8330] Submerged or partially submerged sea caves
SPAs		
Traeth Lafan/Lavan Sands, Conway Bay (UK9013031)	0.47	[A130] Oystercatcher (*Haematopus ostralegus*) [A069] Red-breasted Merganser (*Mergus serrator*) [A160] Curlew (*Numenius arquata*) [A005] Great Crested Grebe (*Podiceps cristatus*) [A162] Redshank (*Tringa tetanus*)
Liverpool Bay (UK9020294)	7.1	[A001] Red-throated diver (*Gavia stellata*) [A065] Common scoter (*Melanitta nigra*) [A177] Little gull (*Hydrocoloeus minutus*) [A193] Common tern (*Sterna Hirundo*) [A195] Little tern (*Sternula albifrons*) Waterbird assemblage
Anglesey Terns / Morwenoliaid Ynys Môn (UK9013061)	8.3	[A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna Hirundo*) [A194] Arctic Tern (*Sterna paradisaea*) [A191] Sandwich Tern (*Thalasseus sandvicensis*)

Site	Distance from works area (km)	Qualifying Features
The Dee Estuary (UK9013011)	52.4	[A048] Common shelduck (*Tadorna tadorna*) [A052] Eurasian teal (*Anas crecca*) [A054] Northern pintail (*Anas acuta*) [A130] Eurasian oystercatcher (*Haematopus ostralegus)* [A141] Grey plover (*Pluvialis squatarola*) [A143] Red knot (*Calidris canutus*) [A149] Dunlin (*Calidris alpina alpina*) [A156] Black-tailed godwit (*Limosa limosa islandica*) [A157] Bar-tailed godwit (*Limosa lapponica*) [A160] Eurasian curlew (*Numenius arquata*) [A162] Common redshank (*Tringa tetanus*) [A191] Sandwich Tern (*Thalasseus sandvicensis*) [A193] Common tern (Sterna hirundo) [A195] Little tern (Sterna albifrons) Waterbird assemblage

5. Potential Effects of the Proposed Works

5.1 Impact Pathway Identification Process

The process of testing for significant effects considers the adverse effects that might arise from the work activities and identifies whether or not there is a probability that each adverse effect can affect each European Site and their qualifying features.

The process that is followed is to identify if the works will generate effects that could affect any of the interest features of the relevant European Sites. At this point, the pathway will be identified along with any factors which may reduce or prevent the effects reaching the relevant European Sites. Only when there is a source, a pathway and an effect that reaches the interest feature is it judged that there could be an LSE that requires the more detailed assessment which is carried out at the AA stage.

Potential adverse effects of the work activities on European Sites have been identified using a combination of:

- Conservation Advice provided by Natural Resources Wales in fulfilment of Regulation 37 of the Conservation of Habitats and Species Regulation 2017 (2018)[4];
- Natural England's AoO; and
- Professional judgement based on experience of conducting numerous assessments of similar work activities in the vicinity of European and Ramsar Sites.

In Section 6, a table is provided for the Screening Stage of the HRA which details the test for LSE and the following information:

- The pressures being considered (derived from the above sources of conservation advice and professional judgement);
- The features being assessed;

[4] Accessed via https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/conservation-advice-for-european-marine-sites/?lang=en

- Whether alone there is an LSE for each pressure / feature combination; and
- Justification for the assessment.

Natural England's AoO guidance for the Liverpool Bay SPA was consulted for the activity 'construction of coastal flood and erosion risk management schemes' to identify medium-high risk pressures which could be associated with the project activities. These impact pathways were as follows:

- Above water noise;
- Visual disturbance;
- Smothering and siltation rate changes (light);
- Changes in suspended solids (water clarity);
- Pollution from vessels and equipment (Hydrocarbon & Polycyclic Aromatic Hydrocarbon (PAH) contamination);

The following medium-high risk pressures that were not anticipated to be associated with the proposed works and / or did not have the potential to affect designated site features were not included in the screening, in line with the AoO guidance:

- Underwater noise changes;
- Abrasion / disturbance of the substrate on the surface of the seabed;
- Penetration and /or disturbance of the substratum below the surface of the seabed, including abrasion.
- Barrier to species movement;
- Habitat structure changes – removal of substratum (extraction);
- Smothering and siltation rate changes (heavy);

The following low risk pressures were also not included in the screening, in line with the AoO guidance:

- Introduction of light;
- Introduction or spread of invasive non-native species (INNS).
- Physical change (to another seabed type);
- Physical change (to another sediment type);

- Introduction of microbial pathogens;
- Collision BELOW water with static or moving objects not naturally found in the marine environment
- Litter;
- Physical loss (to land or freshwater habitat);
- Nutrient enrichment;
- Organic enrichment;
- Salinity decrease;
- Salinity increase;
- Temperature decrease;
- Temperature increase;
- Transition elements & organo-metal contamination

5.2 Coastal Squeeze

Coastal squeeze, in the context of this HRA, refers to the loss or degradation of coastal habitats due to anthropogenic structures such as sea defences that prevent the natural landward migration of coastal habitats in response to rising sea levels. Projects or activities which prevent the natural ability of habitats to migrate landwards in response to sea-level rise are likely to lead to adverse effects or deterioration of the National Site Network.

As the proposed works are to maintain the current shoreline position to prevent further erosion, a coastal squeeze assessment was undertaken to inform this HRA screening report.

The coastal squeeze assessment (APEM, 2025) concluded that there was no pathway for coastal squeeze impacts on the National Site Network sites considered in this report, and therefore it has not been assessed further in this HRA screening.

6. Screening: Testing for LSE

The table below details the test for LSE for the qualifying features within the European Sites taken forward for assessment (Table 3).

Table 3. HRA screening for European and Ramsar Sites within the vicinity of the Project.

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
SACs					
Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC (UK0030202)	[1110] Sandbanks which are slightly covered by sea water all the time [1140] Mudflats and sandflats not covered by seawater at low tide [1170] Reefs [1160] Large shallow inlets and bays [8330] Submerged or partially submerged sea caves	Smothering and siltation rate changes (light) Changes in suspended solids (water clarity);	No	There is no overlap between the work activities and the qualifying habitat features of Menai Strait and Conwy Bay SAC. All work activities will take place in the upper intertidal area at low tide. As such, the works will not cause smothering or a change in siltation rates that will affect the designated features of this site, which is 0.41 km away. Excavated beach material will be stockpiled above MHWS, therefore there is no potential for this material to be suspended and redistributed during periods of high tide. Therefore, there would be no LSE on the qualifying features of this SAC as a result of these pressures.	**Screened out**
		Pollution from equipment (hydrocarbon and PAH contamination)	No	During removal, replacement and reinstatement of beach material, there is potential for hydrocarbon and PAH contaminants to be released onto the beach through oil/fuel spillage from plant and equipment, which would have the potential to be transported by the tide and potentially affect species associated with qualifying features. However, best practice measures will be in place to minimise the risk of accidental spills occurring. All static plant will be placed in drip trays to prevent spillages, an emergency spill kit will be maintained on site, and at no point will any of the plant and equipment be refuelled in the beach area. Therefore, it is considered that there would be no LSE on qualifying features of this site from this pressure.	

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
SPAs					
Traeth Lafan/Lavan Sands, Conway Bay (UK9013031)	[A130] Oystercatcher (*Haematopus ostralegus*) [A069] Red-breasted Merganser (*Mergus serrator*) [A160] Curlew (*Numenius arquata*) [A005] Great Crested Grebe (*Podiceps cristatus*) [A162] Redshank (*Tringa tetanus*)	Visual disturbance Above water noise	No	Lavan Sands is designated mainly for wintering features (0.47 km from the proposed works), resulting in a reduced number of these features when the works are expected to be carried out (before September 2025). Red-breasted merganser and great crested grebe are wintering features and would likely have reduced numbers at the location of the works while the species breed in other areas (eBird, 2025). Curlews are migratory, with no breeding populations along the coast, and so would be found in low numbers In common with other waders, redshank and oystercatchers may be frequently disturbed by human activities on more urbanised wintering sites and are expected to be habituated to noise and visual disturbance, both having medium sensitivity to disturbance (Goodship and Furness, 2022). For urban environments, Goodship and Furness (2022) indicate that for oystercatchers, mean Flight Initiation Distance (FID) (defined as the distance at which a bird or group of birds starts to escape) is approximately 97.3 m. Great crested grebe mean FID in an urban habitat is approximately 10 m, and for common redshank and curlew, mean FID along the shoreline (as no information for	**Screened out**

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
				urban environments is provided) is approximately 79.8 m for redshank and 340.3 m for curlew. As the works are localised, such works would be unlikely to disturb birds over 0.47 km away. As the area of proposed works is outside the designated site (0.47 km), it is considered that areas used for feeding and roosting within Traeth Lafan/Lavan Sands, Conway Bay SPA would not be subject to any further visual or noise disturbance. This is due to the proposed works being both spatially and temporally limited. As the work is all taking place at low tide and during the summer months this means there's no potential connectivity with bird species restricted to wintering only within the nearshore and offshore environment, as well as most species having low numbers in the region as wintering features (Goodship and Furness, 2022). Additionally, the proposed works are situated within an urban environment with high baseline levels of anthropogenic activity, meaning that birds in the area are likely to exhibit a high degree of tolerance / habituation to anthropogenic visual disturbance and noise. Therefore, the proposed works are not expected to lead to a material increase in baseline levels of visual disturbance and above water noise for species, therefore there would be no LSE on the qualifying features of this SPA as a result of these pressures.	
		Pollution from equipment	No	During removal, replacement and reinstatement of beach material, there is potential for hydrocarbon and PAH contaminants	

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
		(hydrocarbon and PAH contamination)		to be released onto the beach through oil/fuel spillage from plant and equipment, which would have the potential to be transported by the tide and potentially affect qualifying features. However, best practice measures will be in place to minimise the risk of accidental spills occurring. All static plant will be placed in drip trays to prevent spillages, an emergency spill kit will be maintained on site, and at no point will any of the plant and equipment be refuelled in the beach area. Therefore, it is considered that there would be no LSE on qualifying features of this site from this pressure.	
Liverpool Bay (UK9020294)	[A001] Red-throated diver (*Gavia stellata*) [A065] Common scoter (*Melanitta nigra*) [A177] Little gull (*Hydrocoloeus minutus*) [A193] Common tern (*Sterna Hirundo*) [A195] Little tern (*Sternula albifrons*) Waterbird assemblage	Visual disturbance Above water noise	No	Liverpool Bay SPA (7.1 km from the proposed works) is designated mainly for wintering features. For little gull, red-throated diver and common scoter there is no potential for an effect to arise as the zone of influence of the works would not overlap with the known wintering distribution of these species. Works are expected to be completed by September 2025 and there are reduced numbers of individuals of these species in the area at this time of year and no potential connectivity in the summer months when work would be conducted (before the end of September 2025) due to species not being in the area (Lawson *et al.*, 2016). Common tern may potentially overlap as a foraging area for the species at sea foraging distance (Woodward *et al.,* 2023), however	**Screened out**

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
				there is highly limited number of records within the vicinity of the works (eBird, 2025) suggesting the area is not commonly used by the species. Little terns are unlikely to forage in this area (with a mean foraging range of 5 km) (Woodward *et al.,* 2023). Mona Offshore wind farm which is close to the proposed works recorded few counts of these features, with red-throated diver only observed in the northern section of the Liverpool Bay SPA from August onwards in low numbers (RPS, 2022). Tern species were observed through the breeding and post-breeding months in low numbers. Little gull was recorded predominantly to the north of the Mona S.I works location with no recordings of common scoter within the Mona OWF area (RPS, 2022). While the location of the proposed works is within the mean max foraging range +1 S.D for some of the species under protection at this site, these species occur at relatively low densities (RPS, 2022). This correlates to the findings of Lawson *et al*. (2016). The proposed works are situated within an urban environment with high baseline levels of anthropogenic activity, meaning that birds in the area from Liverpool Bay SPA are likely to exhibit a high degree of tolerance / habituation to anthropogenic visual disturbance and noise. Therefore, the proposed works are not expected to lead to a material increase in baseline levels of visual disturbance and above water noise for features, or with respect to	

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
				wintering and foraging sites within the Liverpool Bay SPA therefore there would be no LSE on the qualifying features of this SPA as a result of these pressures.	
		Pollution from equipment (hydrocarbon and PAH contamination)	No	Given the distance from the works area to this SPA (7.1 km), there is no potential for small isolated accidental spills to be transported to this site and therefore, it is considered that there is no potential for LSE on qualifying features of this site from this pressure.	
Anglesey Terns / Morwenoliaid Ynys Môn (UK9013061)	[A192] Roseate Tern (*Sterna dougallii*) [A193] Common Tern (*Sterna Hirundo*) [A194] Arctic Tern (*Sterna paradisaea*) [A191] Sandwich Tern (*Thalasseus sandvicensis*)	Visual disturbance Above water noise	No	Tern species usually forage primarily within a 1 km radius of the coast during the breeding season, often in shallow water along the shoreline. They also forage in the intertidal and subtidal zones (Parsons *et al.*, 2015). Common tern, arctic tern and sandwich tern mean max foraging range is within the proposed works location, ranging from 18 to 34 km (± SD), where the proposed works are 8.3 km from Anglesey Terns SPA (Woodward *et al.,* 2023). However, eBird statistics indicate low numbers during the summer months around Bangor and the proposed works (eBird, 2025). Although these features are sensitive to disturbance, there are various alternative habitats available in the area. The proposed works are situated within an urban environment with high baseline levels of anthropogenic activity, unlikely to be a foraging location for many tern species sensitive to disturbance. Any birds in the area are likely to exhibit a high degree of tolerance / habituation to anthropogenic visual disturbance and noise, and	**Screened out**

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
				due to the spatially small localised extent of the works there are alternative habitats available locally. Therefore, the proposed works are not expected to lead to a material increase in baseline levels of visual disturbance and above water noise to these features, therefore, there would be no LSE on the qualifying features of this SPA as a result of these pressures.	
		Pollution from equipment (hydrocarbon and PAH contamination)	No	Given the distance from the works area to this SPA (8.3 km), there is no potential for small isolated accidental spills to be transported to this site and therefore, it is considered that there is no potential for LSE on qualifying features of this site from this pressure.	
The Dee Estuary (UK9013011)	[A048] Common shelduck (*Tadorna tadorna*) [A052] Eurasian teal (*Anas crecca*) [A054] Northern pintail (*Anas acuta*) [A130] Eurasian oystercatcher (*Haematopus ostralegus)* [A141] Grey plover (*Pluvialis squatarola*) [A143] Red knot (*Calidris canutus*)	Visual disturbance Above water noise	No	Shelduck and Eurasian teal are frequently disturbed by human activities in more urbanised wintering sites and are expected to be habituated to noise and visual disturbance in this urbanised environment. Mean FID for shelduck along the shoreline is 77.5 m, while the Dee Estuary is 52.4 km away (Goodship and Furness, 2022). Curlews and pintails are migratory wintering features, likely found in low numbers (eBird, 2025; Goodship and Furness, 2022). In common with other waders, oystercatcher, plover, red-knot, dunlin, black-tailed godwit, bar-tailed godwit and redshank are frequently disturbed by human activities in more urbanised wintering sites and are expected to be habituated to noise and	**Screened out**

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
	[A149] Dunlin (*Calidris alpina alpina*) [A156] Black-tailed godwit (*Limosa limosa islandica*) [A157] Bar-tailed godwit (*Limosa lapponica*) [A160] Eurasian curlew (*Numenius arquata*) [A162] Common redshank (*Tringa tetanus*) [A191] Sandwich tern (*Sterna sandvicensis*) [A193] Common tern (Sterna hirundo) [A195] Little tern (Sterna albifrons) Waterbird assemblage			visual disturbance (Goodship and Furness, 2022). Many of these species have low FIDs. The Dee Estuary is outside the mean foraging range of all tern species (52.4 km away), and eBird statistics indicate low numbers during the summer months around Bangor (eBird, 2025). As the work is all taking place at low tide and during the summer months this means there's no potential connectivity with bird species restricted to wintering only within the nearshore and offshore environment, as well as most species having low numbers in the region as wintering features (Goodship and Furness, 2022). The proposed works are situated within an urban environment with high baseline levels of anthropogenic activity, meaning that birds in the area are likely to exhibit a high degree of tolerance / habituation to anthropogenic visual disturbance and noise. Therefore, with the proposed works 52.4 km from The Dee Estuary, and evidence described above, proposed works are not expected to lead to a material increase in baseline levels of visual disturbance and above water noise to these features, therefore, there would be no LSE on the qualifying features of this SPA as a result of these pressures.	
		Pollution from equipment	No	Given the distance from the works area to this SPA (52.4 km), there is no potential for small isolated accidental spills to be	

Site name	Qualifying features scoped into screening (include sub-features and supporting habitats)	Pressure	LSE?	Justification	Screened in / Screened out?
		(hydrocarbon and PAH contamination)		transported to this site and therefore, it is considered that there is no potential for LSE on qualifying features of this site from this pressure.	

6.1 LSE Conclusion

Following the test for LSE on the European Sites, the following sites have been screened out of further assessment:

- Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC (UK0030202)
- Traeth Lafan/Lavan Sands, Conway Bay (UK9013031)
- Liverpool Bay (UK9020294)
- Anglesey Terns / Morwenoliaid Ynys Môn (UK9013061)
- The Dee Estuary (UK9013011)

The screening assessment indicated that there is no potential for LSE on qualifying features of any of the identified sites. Based on these conclusions, the proposed works have not been carried through to Stage 2 AA.

7. In-combination Assessment

7.1 Projects Considered

In-combination effects are cumulative effects on a single receptor arising from the proposed works when considered alongside the likely effects arising from other proposed developments. The identification of plans and projects to include in the in-combination assessment is based on:

- Approved plans or projects with relevant ongoing activities;
- Approved but as yet unconstructed projects; and
- Projects for which an application has been made, are currently under consideration and will be consented before the proposed works begin.

To identify relevant projects or plans, a combination of the NRW Public Register and Data Map Wales were used. Four projects were identified that are within the vicinity (10 km) of the works and have the potential to have an in-combination effect with the work activities. Distances to the proposed works are provided within brackets:

CML 2441 – Living seawall installation (0 km)

The North Wales Rivers Trust are aiming to install Living Seawall panels onto modern walls throughout the Menai Strait at various locations in Gwynedd as well as Ynys Mon. Living Seawalls are likely to increase the ecological value of new and existing foreshore developments by increasing the habitat complexity of marine-built structures, providing areas for colonisation of species as well as providing refuge from predators. The installations are proposed to take place across 2025 and 2026.

The works in total are expected to take only a few weeks, with each discrete site (of which there are five) taking no more than one day. As such, given the short-term and small scale nature of these works, it is not expected that there will be in-combination effects on the European Sites and therefore there would be no LSE.

CML2374 – Bangor Pier Refurbishment (0.4 km)

Bangor City Council are proposing refurbishment works to Bangor Pier that are proposed to take place from 2025 to 2026. The works will focus on the refurbishment of wind trusses on two phases of the pier structure, with replacement of wind trusses in areas as well as blast cleaning using reclaimed glass and re-painting works. No works are proposed to the support columns or piles.

These works consist of six phases, four of which are already complete. The schedule for the refurbishments is unknown, however, given the nature of the proposed works and the temporary and short-term duration, it is concluded that there is no potential for the remaining pier refurbishment works and proposed scour protection works to have in-combination effects on the European Sites and therefore there would be no LSE.

CML2479 – Pipe Re-lining (0.1 km)

Alun Griffiths Ltd are aiming to undertake pipe re-lining works along 20 m of pipe adjacent to Glandwr Road, Bangor. The pipe will be re-lined using UV cured-in-place pipe lining. The works will also involve the removal of a manhole cover and top brickwork layers, connecting the two ends of existing pipework through the chamber and then filling the chamber with marine grade concrete. The works are proposed to be conducted in 2025.

The schedule for the re-lining works is unknown, however, given the nature of the proposed works and the temporary and short-term duration, it is concluded that there is no potential for the re-lining works and proposed scour protection works to have in-combination effects on the European Sites and therefore there would be no LSE.

CML2427 – Installation of Pipework at Beach Road (0 km)

Eric Wright Water Ltd proposes to install up to 30 m of rising main pipeline. This will involve the creation of a temporary, level working area on top of the revetment, the driving of sheet piles along the foot of the revetment as well as the filling of the void to the rear by stone to form a level platform. From here, a piling rig will install the new piles that will be used to support the pipe. The pipe will then be installed, and the stone platform and sheet piles will be removed. This installation is scheduled to take place from 2024 to 2025.

This licence is a part of the wider project works. The licensable period for these works was from June 2024 to 30th May 2025, which would result in no overlap with the proposed scour protection works. Therefore there would not be any in-combination effects on the European Sites and therefore there would be no LSE.

7.2 In-combination Assessment Conclusion

The in-combination assessment of potential effects arising from identified projects concluded that there is no potential for in-combination effects with the proposed scour protection works and no potential for LSE on European or Ramsar sites qualifying features.

8. Conclusions

The activities involved in the proposed scour protection works at Bangor have the potential to interact with European Sites.

This assessment identified protected sites in the vicinity of the proposed works that could potentially be influenced by effects arising from the works.

Consideration was given to the relevant guidance issued by a number of governmental, statutory and industry bodies including, but not limited to, Defra and NRW guidance on Habitat Regulations Assessments, NRW online guidance on HRA in the marine licensing process and Natural England's Advice on Operations. Following reference to this guidance, the following impact pathways were assessed:

- Above water noise;
- Visual disturbance;
- Changes in suspended solids (water clarity);
- Smothering and siltation rate changes (light); and
- Pollution from vessels and equipment (Hydrocarbon & Polycyclic Aromatic Hydrocarbon (PAH) contamination)

The following European Sites were included in the test for LSE based on the screening criteria in Section 4.2:

- Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC
- Traeth Lafan/Lavan Sand SPA
- Anglesey Terns / Morwenoliaid Ynys Môn SPA
- Liverpool Bay SPA
- The Dee Estuary SPA

The test for LSE carried out on European sites concluded that there is no potential for LSE from the proposed works. As such, no sites were taken through to Stage 2 AA for consideration of adverse effects on site integrity (AEoI). The in-combination assessment concluded no LSE on any of the sites resulting from a combination of the projects considered.

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