



Hirael Flood Alleviation Scheme

Habitats Regulations
Assessment (HRA) Test of
Likely Significant Effects
(TSE) Stage 1 Screening

CPF 7720



Document Control Sheet

Document Title:	Habitats Regulations Assessment TSE Stage 1 Screening
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Project Ref / Title:	CPF 7720: Hiraef Flood Alleviation Scheme
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Revision History

Date	Version No.	Summary of Changes
19.10.21	0.01	Initial Draft
25.11.21	0.02	Draft following review

Reviews

Name	Title	Date	Version
David Harries	Principal Environment Officer	25.11.21	0.02

Approvals

Name	Title	Date	Version
Owain Griffith	Principal Engineer	06/12/21	0.02

Distribution

Name	Title	Date	Version
Emyr Gareth	Project Manager		0.02
Designated Officer	NRW Marine Licensing Team		0.02

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Contents

1.0	INTRODUCTION	5
2.0	THE NEED FOR ASSESSMENT AND IDENTIFYING EUROPEAN SITES AT RISK	14
3.0	SCREENING	21
4.0	FORMAL SCREENING OPINION	28
5.0	APPROPRIATE ASSESSMENT	29
6.0	IN-COMBINATION ASSESSMENT	36
7.0	FORMAL INTEGRITY TEST / CONCLUSION	38
8.0	REFERENCES	39

Appendices

- A. European Sites Potentially at Risk
- B. Site Photographs

List of Abbreviations

AA	Appropriate Assessment
AIES	Assessment of Implications on European Sites
cSAC	Candidate Special Area of Conservation
EMS	European Marine Site
ES	Environmental Statement
FCS	Favourable conservation status
HRA	Habitats Regulations Assessment
IEEM	Institute of Ecology and Environmental Management
IROPI	Imperative Reasons of Over-riding Public Interest
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
OMS	Offshore Marine Site
PEU	Plainly Established and Uncontroversial
PPG	Pollution Prevention Guideline
pRamsar	Possible Ramsar Site
pSAC	Possible Special Area of Conservation
pSPA	Potential Special Protection Area
SAC	Special Area of Conservation
SPA	Special Protection Area

Executive Summary

This report comprises a Habitats Regulations Assessment (HRA) for a Flood Alleviation Scheme (FAS) that will take place at Hirael, Bangor. Hirael is located north east of Bangor within a low lying basin with a catchment area which includes most of the city of Bangor. The proposal area consists of a 550m length foreshore, a narrow beach and a recreational water front open space. Immediately behind Beach Road is a densely populated area of residential and commercial properties. The area is at risk of flooding from sea and surface water.

The proposal seeks to construct a continuous line of defences from Beach Road East car par to the Welsh Water pumping station tying in to the raised ground at the former Dickie's Boatyard site. A short length of defence is also required adjacent to Glandwr Road. The total length of works will be in the region of approximately 600m.

An HRA is an assessment of impacts on European protected sites of importance for nature conservation.

Following a Screening assessment, the first stage of the HRA identified that there would be 'Likely Significant Effects' for the Menai Strait and Conwy Bay SAC and Traeth Lafan SPA. Therefore, the assessment progressed to Stage 2 'Appropriate Assessment' stage, which considered the potential for the works to have an adverse effect on the integrity of the sites, taking proposed mitigation measures into account. It should be noted that the information included in this report relating to Stage 2 forms a Statement to inform an Appropriate Assessment (SIAA), as the Appropriate Assessment itself will be made by the Competent Authority.

The assessment concluded that without mitigation the Menai Strait and Conwy Bay SAC and Traeth Lafan SPA could be affected through potential construction pollution and disturbance of wintering birds. However, when taking mitigation measures into account, no adverse effects on integrity were anticipated with no residual effects.

1.0 INTRODUCTION

YGC were commissioned to undertake a Habitats Regulations Assessment (HRA) Test of Likely Significant Effects (TSE) for the proposed flood protection scheme at Hiraël which is the north eastern side of Bangor, within a low lying basin (Grid Ref: X:258723, Y: 372814), see Figure 1 below. This report comprises a HRA which is an assessment of impacts on European protected sites of importance for nature conservation.

The proposal area consists of a 550m length foreshore, a narrow beach and a recreational water front open space. Immediately behind the site is part of the A5, known as Beach Road. This area is densely populated of residential and commercial properties. The area is at risk of flooding from both tidal and surface water.

The works have been split into 4 sections for outline design purposes. The proposal for each section is as follows:

1: Beach Road East carpark (southern end of the scheme)

Current cycle path to be regraded and realigned, construction of a new flood wall and reconstruction of a slipway to provide access down to the beach. A new flood gate will also be installed at the top of the slipway.

2: Main promenade frontage

Removal of existing gabions and walkway and construction of a new tidal flood defence using a sheet pile and parapet method. This continuous line of defence will be on the same footprint as the existing sea wall and will span the length from Beach Road East carpark to Dŵr Cymru Welsh Water (DCWW) pumping station.

3: Behind Dŵr Cymru Welsh Water pumping station

Construction of a raised cycle track located directly behind a top soil embankment. The new cycle path will encroach slightly into Beach Road West carpark. A flood gate will also be installed at the entrance of the DCWW compound.

4: Section at Glandwr Road (northern end of the scheme)

The road will be raised slightly, by 0.5m at its highest point. A new line of sea defence will also be constructed and a flood gate will be installed across the road near the former Dickie's boatyard to provide flood protection to the properties behind this area.

Outline design has been completed for the proposal with the detailed design and contractor appointment to be completed following the submission of the planning application.

The purpose of this HRA screening is to assess the impact of the works on sites of international importance for biodiversity.

1.2 Authors

This HRA has been prepared by:

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- David Harries MSc, CEnv, MCIEEM.

Draft

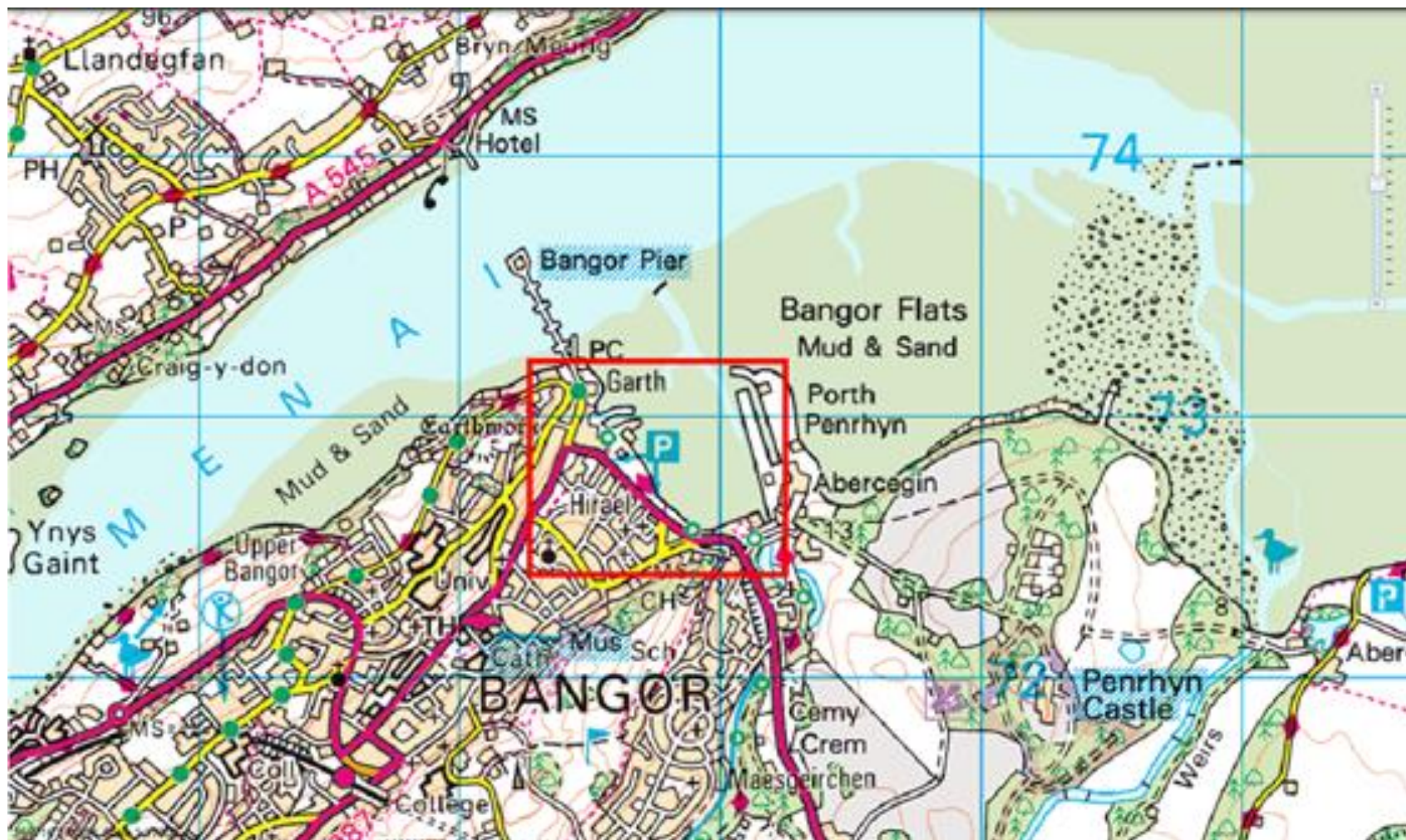


Figure 1: Location of proposed works in Hirael, Bangor (within red box).

1.3 European Sites and Ramsars

The EU Habitats Directive requires competent authorities to assess the impacts of plans and projects on the Natura 2000 network of protected sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). In England and Wales, the Directive is implemented by the Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2017 (the 'Habitats Regulations'). These set out the requirement for a Habitats Regulations Assessment (HRA) where necessary, comprising a series of mandatory tests.

According to Government policy and advice, 'Wetlands of International Importance' or Ramsar sites, although not subject to the Habitats Regulations, should be treated within the planning system in the same way as SACs and SPAs (or 'European sites'). The same level of protection is also given to potential or proposed sites (i.e. pSPA, pSAC and pRamsar), which have not yet been formally designated.

1.4 The HRA of Projects

HRA asks specific, mandatory questions of development projects. Firstly a pre-screening process establishes whether a project can be exempted, excluded or eliminated, either because it is directly connected with the conservation management of the protected site, or it doesn't qualify as a 'project' (within the meaning and scope of the Habitats Directive), or because it couldn't conceivably affect any protected sites. If it cannot be discounted for these reasons, it has to undergo a process involving the four stages outlined in Table 1 and Figure 3 below.

The first stage is to screen the project to identify if it may result in a likely significant effect, whether alone or in-combination with other plans or projects. Provided that these significant effects can be ruled out, then no further assessment is needed. Following recent case law (People over Wind, 2017), mitigation cannot be taken into consideration at this stage.

If likely significant effects cannot be ruled out, then the project will proceed to the 'Appropriate Assessment' stage which explores the impacts in terms of the sites conservation objectives. This is to identify whether it can be ascertained that *it will not adversely affect the integrity of the European site*. It is only at this stage that mitigation measures can be considered or imposed (such as changes to design or timing of works). If the Appropriate Assessment can rule out any adverse effects on the integrity of the European site (with or without mitigation), the project may then be consented.

If adverse effects cannot be ruled out, then the assessment progresses to stages three and four and specific derogations may be sought. These determine whether alternative solutions exist and if not, whether imperative reasons of overriding public interest apply and if so, whether compensation is feasible. It should be noted that use of the derogations is regarded as a last resort and should be considered only in exceptional circumstances. The majority of projects are resolved during stages 1 and 2 of the HRA process, as few would manage to pass the strict tests of stages 3 and 4.

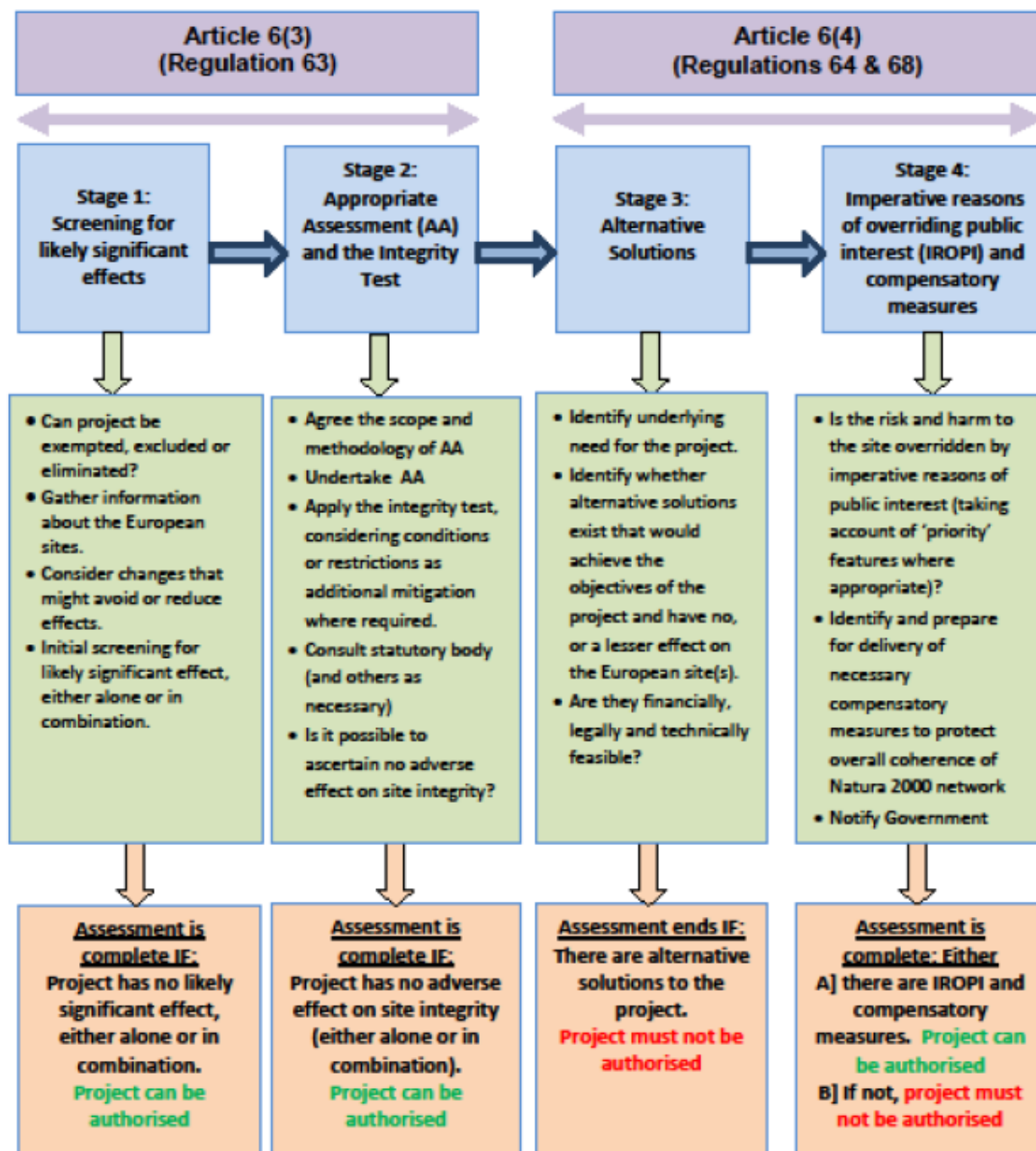
Table 1: Summary of the four-stage HRA process

Stage	Test	Task
1	Screening	If the project cannot be excluded from the process (pre-screening), this stage determines if the project will lead to a 'likely significant effect' on a European site alone or in combination with other plans or projects. This stage uses a very precautionary approach, without consideration of mitigation measures. This stage involves gathering information about the protected sites but is not a detailed analysis of the impacts.
2	Appropriate Assessment and Integrity Test	If 'likely significant effects' cannot be ruled out, a more thorough 'appropriate assessment' must be carried out to assess whether it is possible to ascertain whether the project will have an 'adverse effect on the integrity of the site' (AEOI) or not. Mitigation can be considered at this stage but not before.
3	Alternative Solutions	If 'AEOI' cannot be ruled out, the HRA must explore whether less damaging 'alternative solutions' could deliver the overall objective of the project.
4	Imperative Reasons of Over-riding Public Interest (IROPI) and Compensation	If no alternative solutions exist, the project can only proceed if 'IROPI' apply and 'compensatory measures' must be delivered before consent can be granted.

This HRA uses guidance provided by the Habitats Regulations Assessment Handbook (DTA, 2013, February 2019 edition), which draws on best practice and case law from the UK and across the EU to inform best practice. The definitions of HRA terminology used in the assessment can be found in the HRA Handbook.

This document contains information for Stage 1 (Screening) - Test of Likely Significant Effects and information to inform Stage 2: Appropriate Assessment – the consideration of the impact of the project on the integrity of the internationally protected sites, either alone or in combination with other projects or plans.

Extent of knowledge, use of professional judgement and the precautionary principal of professional judgment has been used in the gathering of data and in the interpretation of results gained in relation to the potential impacts, mitigation and significance of any residual impacts, and consideration against conservation objectives. If information is unknown about a potential impact on a species, then the precautionary principal has been used.



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Figure 3: Outline of the four-stage approach to the Habitats Regulations Assessment of projects.

1.5 Definitions, Evidence and Case Law

Stage One – Screening

In the context of a likely significant effect, 'likely' means a possible (or the risk of a) significant effect whose occurrence cannot be excluded on the basis of objective information. 'Significant' means if it is likely to undermine the conservation objectives of a European / internationally important site. 'Objective information' can be defined as a clear verifiable fact rather than a subjective opinion and when carrying out a screening assessment, it is not that significant effects are probable, it is that a risk is 'sufficient'. However, there must be credible evidence that there is a 'real', rather than a 'hypothetical' risk.

An 'in-combination' assessment is only required when an impact is identified as having an insignificant effect on its own (residual effect) but may have significant effects when taken into consideration with other plans or projects. This type of assessment is only required during the screening stage, although it can be difficult to distinguish between likely significant effects when considered alone or in-combination. Additionally, the rather coarse nature of the screening stage can sometimes preclude or compromise the necessary analysis and an incorrect choice can sometimes prompt extensive and unnecessary work, which is a limitation of this process. Therefore, unless the issues at the screening stage are clear, this HRA assumes that all likely significant effects apply alone with no residual effects. This will ensure all possible effects are considered and assessed for more thorough analysis in the appropriate assessment if required.

Stage Two – Appropriate Assessment and the Integrity Test

Regulation 63 states that where a plan is 'likely to have a significant effect', it can only be consented if the competent authority can ascertain that it 'will not adversely affect the integrity of the European site.' An Appropriate Assessment is defined as "the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts".

The 'integrity' of a European site is defined as:

'the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified or listed.'

The European Commission defined it more recently as follows:

'The integrity of the site involves its constitutive characteristics and ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives.'

As the HRA process is an iterative process, further scrutiny during the Appropriate Assessment will inevitably confirm or challenge the outcomes of the screening exercise. As a result, this may result in changes such as the identification of new or removal of existing effects, or the need for an in-combination screening assessment.

In accordance with the principles of the mitigation hierarchy, if mitigation measures are able to remove an adverse effect, the measure should be adopted regardless of the cost or difficulty.

Favourable Conservation Status

The aim of the Habitats Directive is to maintain or restore the habitats and species (or qualifying features) listed in Annex I and Annex II respectively, to favourable conservation status (FCS) to ensure their long-term survival is secured across their natural range within the EU. This is described in Articles 1(e) and 1 (i) of the Directive as follows:

The conservation status of a natural habitat will be taken as favourable when:

- *Its natural range and areas it covers within that range are stable or increasing;*
- *The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and*
- *The conservation status of its typical species is favourable as defined in (i);*

[and]

The conservation status of a species will be taken as favourable when:

- *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;*
- *The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.*

These targets may apply across several member states but are delivered by site-based conservation objectives. Site-based conservation objectives can be defined as ‘a set of specified objectives to be met in a site in order to make sure that the site contributes in the best possible way to achieving FCS at the appropriate level (taking into account the natural range of the respective species or habitat types)’.

Priority features

Some of the qualifying features of the Natura 2000 European sites are listed as ‘Priority features’. These are treated in the same way as the other features during Stages 1 and 2 of an HRA, but at Stage 4, Imperative reasons for overriding public interest (IROPI) are restricted to those relating to human health, public safety or beneficial effects on the environment if priority features would or could be adversely affected by a plan or project. In other words, IROPI of a social or economic nature alone cannot be considered sufficient reasons for impacts on ‘priority features’ when assessing the derogations (Stages 3 and 4 of HRA).

Mitigation and case law

The ‘People Over Wind’ case provided a new interpretation of when and how mitigation measures should be considered in an HRA. In 2017, the European Court of Justice departed from previous decisions, clearly identifying that measures specifically designed to avoid or reduce likely significant effects should not be evaluated at the screening stage, and should be reserved for the Appropriate Assessment stage.

Role of the competent authority

It is the competent authority's responsibility to decide whether or not to adopt this assessment as part of their duty under the Habitats Regulations.

Draft

2.0 THE NEED FOR ASSESSMENT AND IDENTIFYING EUROPEAN SITES AT RISK

2.1 Exclusion, Elimination and Exemption from the Need for Assessment

Prior to the identification of vulnerable European sites, Stage 1 of the HRA process encourages a brief 'pre-screening' exercise to determine whether there is actually a need for an HRA. It decides whether a proposed development can be:

- **Exempted** from the HRA because it is '... directly connected with or necessary for the management of the ... European site';
- **Excluded** from the HRA because 'it is not a project within the meaning and scope of the Habitats Directive'; or
- **Eliminated** from the HRA because it can easily be shown that although 'it is a project ... it could not have any conceivable effect on any European site'.

Following this pre-screening exercise, it is evident that the proposed development does in fact represent a project within the meaning and scope of the Habitats Directive with the potential to cause harm to European sites. As a result, it can neither be excluded nor eliminated from the HRA. Additionally the purpose of the project is not directly connected with or necessary to the management of European sites, and so it cannot be made exempt from the HRA process. Therefore, the first steps of the Stage 1 assessment will need to commence by identifying which European sites (and associated features) may be at risk. The identification of these sites is outlined in the section below.

2.2 Identification of European sites at risk

This HRA has adopted a 2km radius from the proposed works to search for European protected sites at risk. This distance is considered to be the maximum extent that a project of this nature and scale could reasonably be expected to generate measurable effects. Using the data from 'Map Ecoleg' (a version of MapGwynedd, the Gwynedd Council GIS database), the sites within this area are listed in Table 2 below and shown in Figures 1 and 2 above.

Table 2. European sites within 2km of the proposed works

European site	Distance
Menai Strait and Conwy Bay SAC	Approximately 150m to the north (see Figure 2 above)
Traeth Lafan SPA	Approximately 188m to the north east (see Figure 2 above)

In some instances, sites require a larger search radius of up to 30km if they support highly mobile qualifying species such as lesser horseshoe bats or otters that could be affected by the proposed works. There are four SAC's within the 25km and 30km screening distance for Otters and Lesser Horseshoe Bats. These are; Afon Gwyrfa and Llyn Cwellyn SAC (Otters), Glynllifon SAC (Bats), Meirionnydd Oakwoods and Bat Sites (Bats), and Gwydir Forest Mines SAC (Bats). There are records of both otter and bat species within 1km of the proposed works and therefore will be considered further in relation to the works.

Menai Strait and Conwy Bay SAC is classified as a 'European Marine Site' (EMS). All EMSs are accompanied by bespoke conservation objectives and supplementary advice. The HRA will initially focus solely on the high-level objectives and then, if necessary, further scrutiny of other objectives will be reserved for the appropriate assessment.

The presence of a site on the list in Table 2 doesn't in itself justify its inclusion in subsequent stages of the HRA process, as this depends on the characteristics of the site and the possible impact pathways between the two. Therefore, to encourage a consistent, reliable and repeatable process, the HRA Handbook identifies 22 generic criteria (including sub-criteria) to focus the assessment on relevant sites only, as shown in full in Appendix A. If no European sites are identified in the final column of this table then none will be considered to be at risk and no further scrutiny is needed. In practice, this process can alter the area of search by expanding it (for instance in the case of riverine sites) or shrinking it where the evidence demands that harmful effects are unlikely.

Importantly, although the outcomes of the site identification task will reflect the type and location of the proposed development, and/or the ecological characteristics of the European sites, it does not represent the test for likely significant effect (which follows later).

Of the 22 criteria listed, one criterion was considered to be a credible threat to European sites – criterion 5. It should be noted that there is a close link between criterion 5 and criteria 10, 14, 15 and 16 below. The full scanning and site selection list may be found in the Table in Appendix A. The results of this exercise are provided in Table 3 below, with columns 2 and 3 omitted from the full table. The remaining criteria have been removed from any further consideration in this HRA as they are not relevant to the proposed works.

Table 3. Scanning and site selection list for European sites that could potentially be at risk from the proposed works

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
(3) Projects that could affect the marine environment	Criterion 3 includes sites whose qualifying features could be affected by changes in water quality, currents or flows; or effects on the inter-tidal or sub-tidal areas or the sea bed, or marine species. Menai Strait and Conwy Bay SAC has been designated for three Annex I habitats which include sandbanks which are slightly covered by sea water all the time, intertidal mudflats and sandflats and reefs. These habitats support Annex II qualifying features which include sea and river lamprey, shad and grey seal. The extent and detailed design of the proposal is unknown at this stage but the proposal will be in the proximity of the foreshore. No cofferdam or temporary working platform will be required for the works however access will need to be gained to carry out some aspects of the works on the foreshore. Temporary disturbance of the qualifying features and habitats and possible construction pollution could occur as a result. As the works may lead to the disturbance of the qualifying features and may lead to construction related pollution, the potential of harmful effects on the Menai Strait and Conwy SAC cannot be ruled out at this stage and further consideration is required. <i>Note: There is a close link between criterion 5 and criteria 8, 10, 14, 15 and 16 below.</i>	Menai Strait and Conwy Bay SAC
(5) Projects that could affect mobile species	Criterion 5 includes sites whose qualifying features include mobile species which may be affected by the project irrespective of the location of the project or whether the species would be in or out of the site when they might be affected. Mobile species are those considered to spend part of their life-cycle on land, in water or air beyond the designated site boundary. Typically, it focuses on potential impacts on	Traeth Lafan SPA

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	functionally-linked land and water utilised by the birds, mammals and migratory fish associated with the European sites listed. Note that 'indirect' effects on mobile species on functionally – linked land or water beyond the development site, are considered under other criteria below, such as '6. Recreational pressure', and '14. Disturbance'. Traeth Lafan SPA has been designated for its wintering birds. There are three qualifying species - Oystercatcher, Curlew and Great Crested Grebe. In conditions of severe winter weather, Traeth Lafan also acts as a refuge area for Oystercatchers displaced from the Dee Estuary. The site is also an important moulting roost for Great Crested Grebe in late summer/early autumn. A single curlew was recorded foraging on St Georges' playing field during the EclA survey, confirming the importance of the area for wintering bird species. Although the following species are not qualifying species of the SPA, the JNCC Designation citation for Traeth Lafan SPA also refers to two additional species, listed in Annex II of Directive 92/43/ECC. The species are Redshank and Red-breasted Merganser. A further Wintering Bird Survey was carried out to explore the presence and distribution of birds at the site of proposed works. The Core Survey Area was located 0-250m from the proposed works with the full survey areas measuring 500m from the proposal. Two roosts were identified in the proximity of the proposal, with Roost 1, located close to the point of the small peninsular east of the Welsh Water pumping station and Roost 2 located on the beach at the southeast end of the harbour. Seven wading species were recorded using roost 1, notably Oystercatcher, Redshank, Knot and Dunlin. Five wading species were recorded using roost 2 with Redshank being the most abundant specie. Within the core survey area, an average of 1.3% of the whole SPA	

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	Oystercatcher population can be found within the core survey area followed by 0.4% and 0.3% if Curlew and Great Crested Grebe, respectively. An average of 14% of the whole SPA population of Redshank can be found in the proximity of the proposal, followed by 0.4% of the population of the Red-breasted Merganser. The Core Survey Area does not support significant proportions of SPA populations of any of the qualifying features although Roost 1 is an important location within the survey area. The survey area population of Red-breasted Merganser represents a very small proportion of the SPA population. A significantly greater proportion of the SPA Redshank population roosts at high tide inside the survey area, notably at Roost 2. As a result of the location and extent of the proposed works, wintering and marine bird will potentially be disturbed, primarily through construction noise and movement along the beach and promenade. As the works may therefore lead to the disturbance of the qualifying species of the SPA, a potential for harmful effects on Traeth Lafan SPA cannot be ruled out at this stage and further consideration is required. <i>Note: There is a close link between criterion 3 and criteria 8, 10, 14, 15 and 16 below.</i>	
(5) Projects that could affect mobile species	There are four SAC's within the 25km and 30km screening distance for Otters and Lesser Horseshoe Bats. These are; Afon Gwyrfa and Llyn Cwellyn SAC (Otters), Glynllifon SAC (Bats), Meirionnydd Oakwoods and Bat Sites (Bats), and Gwydir Forest Mines SAC (Bats). There are records of both otter and bat species within 1km of the proposed works and as a result, all of the relevant SAC's within screening distance are considered. The proposal seeks to potentially remove some trees to accommodate the scheme however plans to retain or replant lost trees. Currently, no trees with bat roost potential will be removed as part of the proposal therefore there will be no loss of potential roosting habitats.	n/a

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	It should be noted that the bat SAC's are primarily for lesser horseshoe bats which are not reliant on tree roosts. The intertidal area and scrub within the proximity of proposed works provide suitable foraging and resting habitat for otters but no potential resting sites were recorded as part of the ECIA. Therefore, there is no likely significant effect on these sites and they will not be taken further in this assessment.	
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2.3 Initial outcome of site identification exercise

Following the initial high-level preliminary screening exercise provided by Table 3 above and Appendix A (full version including criteria screened out as well as those screened in), the number of potential threats and sites affected is reduced. Despite this, the nature of the criteria results in considerable overlap in some instances, such as in criteria 5, 14, 15 and 16 which can all effectively be represented by 'disturbance of mobile species' and 'potential increase in mortality of mobile species'. Criterion 2 effectively represent the threats caused by 'pollution'. These terms will therefore be used in any subsequent assessment, in place of the criteria in Table 3 above.

The outcomes of the site identification exercise are therefore shown in Table 4 below.

Table 4. Summary of potential threat mechanisms and European sites at risk

Potential threat	Relevant Criteria from Table 3	European sites
Projects that could affect mobile species	5	Traeth Lafan SPA
Projects that could affect the marine environment	3	Menai Strait and Conwy Bay SAC

Table 4 above demonstrates that potential impacts on two European sites remains and a formal screening assessment is therefore required.

3.0 SCREENING

3.1 Purpose

The purpose of the screening exercise determines whether or not a plan or project will lead to a 'likely significant effect' or, in other words, whether there is a risk that the proposed works will lead to effects that would 'undermine the conservation objectives' of the site and cannot be 'excluded on the basis of objective information'. An Appropriate Assessment is required when likely significant effects (that are credible and not hypothetical) are identified (or cannot be ruled out).

3.2 Approach

In order to complete the screening stage and identify any likely significant effects on site features, additional information is needed for each site at risk. The screening tables (Table 5 and 6) below therefore collate additional information for each site, including a site description and list of qualifying features, and use this to identify any likely significant effects from the proposed works (based on the threats listed in Table 4 above) and the site features potentially affected. The site specific information provided in these tables has been collated from the Natural Resources Wales and JNCC websites. If necessary more detailed descriptions of the sites will be provided at the Appropriate Assessment stage, including the conservation objectives, but the information in Tables 5 and 6 below is sufficient for the screening stage.

In-depth analysis is not required at the screening stage as it should only operate as a 'trigger' to determine if an Appropriate Assessment is needed. Therefore, detailed examination of each of the conservation objectives of each of the features of the sites will not be undertaken at this stage, and is reserved for the Appropriate Assessment stage. Instead, this section only broadly explores whether it is possible that conservation objectives could be undermined and takes into account the risk of a potential significant effect.

As a result of the 'People Over Wind' decision, the screening stage is able to consider the essential features and characteristics of a project but is not able to take bespoke mitigation measures into account. The consideration of all mitigation for this project is therefore reserved for the Appropriate Assessment stage.

Table 5. Screening Assessment for the Menai Strait and Conwy Bay SAC

Menai Strait and Conwy Bay SAC (26482.67 ha)	UK0030202
<u>Qualifying features</u> Habitats: 1: Large shallow inlets and bays 2: Mudflats and sandflats not covered by seawater at low tide 3: Reefs 4: Sandbanks which are slightly covered by sea water at all time 5: Submerged or partially submerged sea caves Qualifying species: No Annex II species are listed as primary reasons for selection of the site as a SAC, however the Natura 2000 data form states that the following Annex II species occur within the site: • Sea lamprey <i>Petromyzon marinus</i>; • River lamprey <i>Lampetra fluviatilis</i>; • Allis shad <i>Alosa alosa</i>; • Twaite shad <i>Alosa fallax</i>; and, • Grey seal <i>Halichoerus grypus</i>. <u>Description</u> The Menai Strait and Conwy Bay SAC is situated in north-west Wales and includes the whole of the Menai Strait, from its south-western entrance at Abermenai Point through to Red Wharf Bay and Conwy Bay to the north. To the east the SAC extends to the Little Orme and to the north to Traeth Lligwy on the east coast of Anglesey. The five marine habitat features for which the site was selected are distributed throughout the SAC, with no single feature occupying the entire SAC and with some features overlapping in certain locations. The SAC supports many additional species that are not listed as qualifying features, these include seabirds, waders and wildfowl, marine mammals, fish and invertebrates such as crustaceans. The Menai Strait and Conwy Bay SAC is rich in a variety of marine species. Although the proposal site is not located within the SAC, it is located within Bangor Flats, directly adjacent to the SAC. <u>Conservation Objectives</u> The overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing. For the intertidal mudflats and sandflats feature these include; • Muddy gravel communities • Dwarf eelgrass, <i>Zostera noltei</i> beds • Sediment communities at Traeth Lafan For the reef feature these include; • Reef communities in high energy wave-sheltered, tide-swept conditions • Under-boulder, overhang and crevice communities • Limestone reef communities	

- Clay outcrop reef communities

For the **large shallow bay** feature these include;

- Organically enriched muddy sediment areas

Structure and function

- 1) The physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. Important elements include;
 - geology,
 - sedimentology,
 - geomorphology,
 - hydrography and meteorology,
 - water and sediment chemistry,
 - biological interactions.
- 2) This includes a need for nutrient levels in the water column and sediments to be:
 - at or below existing statutory guideline concentrations
 - within ranges that are not potentially detrimental to the long term maintenance of the features species populations, their abundance and range.
- 3) Contaminant levels in the water column and sediments derived from human activity to be:
 - at or below existing statutory guideline concentrations
 - below levels that would potentially result in increase in contaminant concentrations within sediments or biota
 - below levels potentially detrimental to the long-term maintenance of the feature species populations, their abundance or range taking into account bioaccumulation and biomagnification.

Typical species

The presence, abundance, condition and diversity of typical species is such that habitat quality is not degraded. Important elements include:

- species richness
- population structure and dynamics,
- physiological health,
- reproductive capacity
- recruitment,
- mobility
- range

As part of this objective it should be noted that:

- populations of typical species subject to existing commercial fisheries need to be at an abundance equal to or greater than that required to achieve maximum sustainable yield and secure in the long term
- the management and control of activities or operations likely to adversely affect the

habitat feature is appropriate

These conservation objectives recognise and acknowledge that human activity has already modified and continues to modify habitats and species populations in various ways, to varying degrees and at varying spatial and temporal scales, either acutely or chronically. The conservation objectives do not aim to prevent all change to the habitat and species features, or to achieve an indefinable, abstract natural or pristine state, since these would be unrealistic and unattainable aspirations. Rather, they seek to prevent further negative modification of the extent, structure and function of natural habitats and species' populations by human activity and to ensure that degradation and damage to the features that is attributable to human activities or actions is prevented. Consequently, in order to meet the requirements of the Directive and ensure the site makes its appropriate contribution to conservation of biodiversity, the conservation objectives seek to:

- Encompass inherent dynamism rather than to work against it;
- Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species;
- Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.

The term *degradation* is used to encompass damage or deterioration resulting only from such human activities or actions as have a detrimental effect on the feature. The magnitude of any degradation is dependent on the longevity and scale of the impact and the conservation importance of the species or habitats on which the impact occurs. This is influenced by:

- the type of human action, its nature, location, timing, frequency, duration and intensity;
- the species or habitats, and their intolerance and recoverability.

Outcomes arising from human action that are likely to be considered detrimental include such effects such as:

- permanent and long-term change of distribution or reduction in extent of a feature or feature component, or temporary modification or reduction sufficiently significant to negatively impact on biota or ecological processes;
- reduction in ecological function caused by loss, reduction or modification of habitat structural integrity;
- interference in or restriction of the range, variety or dynamism of structural, functional or ecological processes, *e.g.*: alteration of habitat structure, obstruction of tidal streams, chronic or acute thermal, salinity or suspended sediment elevations or reductions;
- hypertrophication or eutrophication;
- contamination by biologically deleterious substances;
- reduction in structure, function and abundance of species populations;
- change in reproductive capacity, success or recruitment of species populations;
- reduction in feeding opportunities of species populations
- reduction of health to a sub-optimal level, or injury, rendering the population less fit

for, *inter alia*, breeding, foraging, social behaviour, or more susceptible to disease;

- increase in abundance and range of opportunist species through the unnatural generation of preferential conditions (*e.g.* organic enrichment), at the expense of existing species and communities;
- increase in abundance and range of non-native species.

Potential Threats / Vulnerabilities

1) *Disturbance of qualifying features;*

2) *Construction pollution.*

Although the Menai Strait and Conwy Bay SAC is popular for an array of recreational activities from boating such as sailing, low and high-powered craft (including jetskies) and kayaking to angling and diving, without mitigation in place likely significant effect as result to the proposed works at Hiraef cannot be ruled out.

As the proposed works will be carried out from both land and potentially on the beach during low tide, it poses a potential to cause construction pollution that could be transported by wave activity into the SAC. The significance of this type of pollution on the SAC habitats is considered low, mainly because construction pollutants are likely to be diluted by the time they reach the SAC. However it is still possible that any construction pollution could impact the SAC by contributing towards increasing the overall pollution level of the Straits. Chemicals could have a detrimental impact on SAC habitats and associated species and for this reason will be included as a likely significant effect as a precautionary approach considering the proximity of the SAC.

Due to the fact that the proposed works will take place on the outskirts of a busy city where a level of disturbance is experienced daily and down to the fact that the qualifying features of the SAC are adjacent rather than within the proposal area it is not envisaged that the proposed work will result in disturbance of the qualifying features and for this reason will not be carried forward for further consideration.

Outcome: It is considered that the construction process of the sea defence could potentially result in pollution, in particular oil and material and undermine the conservation objectives of the intertidal mud and sandflat habitat and is therefore a **likely significant effect** for this feature.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Construction pollution, in particular oil, impacting the marine wildlife and features of the SAC.

Table 6. Screening Assessment for the Traeth Lafan SPA

Traeth Lafan SPA (2643 ha)	
<u>Qualifying features</u> The site qualifies as an SPA as it supports significant concentrations of three non-breeding species listed in Annex I of the Birds Directive. These species are as follows: Oystercatcher <i>Haematopus ostralegus</i> Curlew <i>Numenius arquata</i> Great crested grebe <i>Podiceps cristatus</i> Although the following species are not qualifying species of the SPA, the JNCC Designation citation for Traeth Lafan SPA also refers to two additional species, listed in Annex II of Directive 92/43/ECC: Redshank Red-breasted Merganser <u>Description</u> Traeth Lafan Spa is dominated by tidal rivers, estuaries, mud flats, sand flats and lagoons (98%), with occasional areas of salt marsh, salt pasture or salt steppe (2%). Conservation objectives for the SPA are detailed in the publication 'Core Management Plan Including Conservation Objectives for Traeth Lafan, Conwy Bay SPA' (CCW, 2008). The broad conservation objective is associated with maintaining Favourable Conservation Status of qualifying criteria, however specific objectives associated with oystercatcher are provided. These are: <i>"The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:</i> <i>1. The 5 year mean peak of the number of wintering oystercatchers is at least 4,000.</i> <i>2. The abundance and distribution of cockles of 15mm or larger and other suitable food are maintained at levels sufficient to support the population with a 5 year mean peak of 4,000 individuals.</i> <i>3. Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for survival.</i> <i>4. Roost sites, including high tide roost sites, remain suitable for oystercatchers to roost undisturbed.</i> <i>5. The management and control of activities or operations likely to adversely affect the oystercatchers, is appropriate for maintaining the feature in favourable condition and is secure in the long term".</i> No specific objectives are provided for either curlew or great crested grebe, however it is considered reasonable to assume that for curlew, objectives would be broadly the same as for oystercatcher. <u>Potential Threats / Vulnerabilities</u> <i>1) Disturbance of oystercatchers and other wintering birds</i>	

Outcome:

The proposal is likely to cause increased disturbance, in particular as a result to noise, to the qualifying and associated features of the SPA potentially during breeding season. Due to the dispersal of the qualifying features of the SPA it is not considered that the proposal will have a likely significant effect on significant proportions of these species, however oystercatchers and an abundance of Redshank population (listed as Annex II of Directive 92/43/ECC) can be found roosting in the high tide roosts. For this reason, at this current stage likely significant effect of the disturbance of wintering birds associated with the SPA cannot be ruled out and are carried forward for appropriate assessment.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

- Disturbance of wintering birds associated with the SPA during the construction phase of the works.

Evidence provided in Table 5 and 6 above allows the likely significant effects to European sites to be broken down into threats to specific features of the sites identified, with some features being screened out of any further assessment. Therefore, Table 7 below summarises the results of this screening exercise, listing the European sites identified as being at risk from the proposed works, the likely significant effects and the features of each of the sites that could be affected.

Table 7. Summary of Screening Exercise

European Site	<i>Projects that affect the marine environment</i>
Menai Strait and Conwy Bay SAC	Construction pollution, in particular oil, impacting the marine wildlife and features of the SAC.
	<i>Projects that affect mobile species</i>
Traeth Lafan SPA	Disturbance of wintering birds associated with the SPA during the construction phase of the works.

4.0 FORMAL SCREENING OPINION

The proposed improvement has been screened according to the statutory procedures laid out in the Habitats Regulations 2017 (as amended) using the methodology outlined in the Habitats Regulations Assessment Handbook.

The screening exercise concluded that likely significant effects (LSE) could not be ruled out for the Menai Strait and Conwy Bay SAC and the Traeth Lafan SPA due to the reasons outlined in Table 5 and 6 and summarised in Table 7 above. Therefore, an appropriate assessment is required for these likely significant effects.

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5.0 APPROPRIATE ASSESSMENT

5.1 Purpose

Where a project is likely to have a significant effect, the precautionary principle emphasises that consent can only be granted if the competent authority can ascertain that the proposed improvement will not adversely affect the integrity of the European site, following an appropriate assessment. This is the purpose of the appropriate assessment stage.

In accordance with the 'People Over Wind' ruling, the appropriate assessment takes any incorporated mitigation measures into account that are sufficient to remove the likely significant effect. Conversely, if mitigation measures are not proposed, or prove to be inadequate, they can be imposed by the competent authority via conditions or other planning tools.

The role of mitigation is different to that of compensation. Mitigation measures aim to avoid, remove or reduce significant effects on European sites, whereas compensation is only considered under the derogations at the later stages of the HRA if required.

The HRA Handbook outlines the definition of integrity in contemporary planning policy and states that for a consent-making body to conclude the absence of an adverse effect, then it should be 'convinced' that no reasonable scientific doubt remains. As defined by the CJEU (Sweetman) and European Commission, the integrity of the site is 'the lasting preservation of the constitutive characteristics of the site'. For further definitions see Section 1.5 above.

5.2 Approach

The screening assessment found that likely significant effects could not be ruled out for the 'Mudflat and sandflat' habitat feature, the associated species and water quality of the Menai Strait and Conwy Bay SAC and the wintering birds feature of the Traeth Lafan SPA.

These issues are individually subject to further scrutiny through an appropriate assessment (Tables 8 and 9 below), which considers the site's conservation objectives for the features that have been screened into the assessment (see Table 7 above). Individual effects are assessed with and without mitigation, concluding with an individual Integrity Test including an assessment of whether any residual effects remain with mitigation in place. A list of the mitigation measures proposed is included in Table 10. If no adverse effect on integrity is recorded but residual effects do remain, an in combination assessment is likely to be required. If an adverse effect on the integrity of the site remains, the assessment would have to proceed to the derogations, or stages 3 and 4 of HRA (see Table 1 and Figure 1 in Section 1 above).

Following an in-combination assessment of any residual effects (if required), an overall Formal Integrity Test for the proposed works will be reported.

Information about the qualifying features of the sites has been obtained from the JNCC and NRW web-sites.

Table 8. Appropriate Assessment

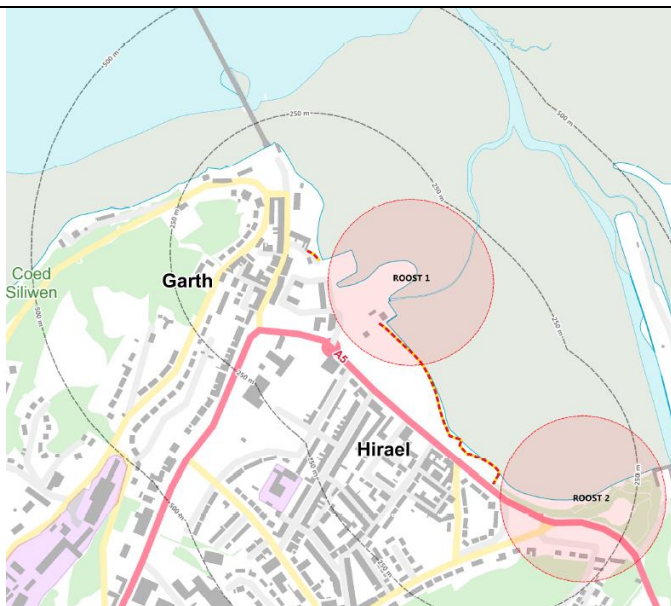
Menai Strait and Conwy Bay SAC (26482.67 ha)	
Assessment without mitigation <u>Construction pollution impacting the marine wildlife and features of the SAC.</u> The construction of the new sea wall will be carried out from dry land however aspects of the works will need to be carried out from the foreshore during low tide. As a result, it poses a potential to cause construction pollution that could be transported by wave activity into the SAC. The significance of this type of pollution on the SAC habitats is considered low, mainly because construction pollutants are likely to be diluted by the time they reach the SAC. However, it is still possible that any construction pollution could impact the SAC by contributing towards increasing the overall pollution level of the Straits. Chemicals could have a detrimental impact on SAC habitats and associated species and for this reason has been included as a likely significant effect as a precautionary approach considering the proximity of the SAC. <u>Conclusion</u> Without mitigation, the risk to the qualifying features of the SAC in terms of the potential of introducing contaminants is not considered to represent a significant adverse effect on the integrity of the SAC, although residual effects remain.	
Assessment with Mitigation Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary. <u>Application of mitigation measures:</u> Mitigation measures are included in full in Table 10 below, but those involved with reducing or avoiding loss of potential foraging habitat can be summarised as follows: • Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks; • Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline; • Use biodegradable lubricant and hydraulic oil in plant machinery is possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment. • Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan. <u>Conclusion</u> With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of the Menai Strait and Conwy Bay SAC or Traeth Lafan SPA, with no residual effects on any of the Conservation Objectives of the features of these sites.	

Table 9. Adverse effects on the integrity of the European site.

Impact on Conservation Objectives – Menai Strait and Conwy Bay SAC	
Conservation Objectives for the site	Outcome
The vision for this feature is for it to be in favourable conservation status, where all the following conditions are satisfied: The overall distribution and extent of the habitat features within the site, and each of their main component part is stable or increasing For the intertidal mudflats and sandflats feature these include; • Muddy gravel communities • Dwarf eelgrass, <i>Zostera noltei</i> beds • Sediment communities at Traeth Lafan For the reef feature these include; • Reef communities in high energy wave-sheltered, tide-swept conditions • Under-boulder, overhang and crevice communities • Limestone reef communities • Clay outcrop reef communities For the large shallow bay feature these include; • Organically enriched muddy sediment areas	No adverse effects on integrity
Contaminant levels in the water column and sediments derived from human activity to be: -At or below existing statutory guideline concentrations -Below levels that would potentially result in increase in contaminant concentrations within sediments or biota -Below levels potentially detrimental to the long-term maintenance of the feature species populations, their abundance or range taking into account bioaccumulation and biomagnification	No adverse effects on integrity
Populations of typical species subject to existing commercial fisheries need to be at an abundance equal to or greater than required to achieve maximum sustainable yield and secure in the long run	No adverse effects on integrity
The management and control of activities or operations likely to adversely affect the habitat feature is appropriate for maintaining it in favourable condition is secure in the long term	No adverse effects on integrity
In relation to the conservation of biodiversity, encompass inherent dynamism rather than to work against it	No adverse effects on integrity
Safeguard features and natural processes from those impacts of human activity that cause damage to the features through the degradation of their range, extent, structure, function or typical species.	No adverse effects on integrity
Facilitate, where necessary, restoration of features or components of features that are currently damaged or degraded and in unfavourable condition.	No adverse effects on integrity

Table 10. Appropriate Assessment

Traeth Lafan SPA (2643 ha)	
Assessment without mitigation <u>Disturbance of wintering birds</u> The proposal is likely to cause increased disturbance during construction to the qualifying and associated features of the SPA during breeding season. Due to the dispersal of the qualifying features of the SPA it is not considered that the proposal will have a likely significant effect on significant proportions of these species, however oystercatchers and an abundance of Redshank population (listed as Annex II of Directive 92/43/ECC) can be found roosting in the high tide roosts. <u>Conclusion</u> Without mitigation, the risk to the qualifying and associated features of the SPA in terms of the potential disturbance is not considered to represent a significant adverse effect on the integrity of the SPA, although residual effects remain.	
Assessment with Mitigation Each of the mitigation measures is considered to cover the criteria identified in the DTA HRA Handbook, namely effectiveness, reliability, timeliness, deliverability, enforcibility and likelihood they will be maintained and persist for however long is necessary. <u>Application of mitigation measures:</u> Mitigation measures are included in full in Table 10 below, but those involved with reducing or avoiding loss of potential foraging habitat can be summarised as follows: • Consider the seasonal timings of the works as disturbance is likely to have a negative impact on important high tide roosts during the winter months. • Activities that will generate high-level disturbance stimuli, notably percussive sheet piling (but less so 'silent piling' solutions), should be undertaken April-August when the impact on roosting waders will be minimal. • Introduce disturbance buffers. Therefore, no heavy construction works to be undertaken during the autumn and winter months (from September through to the end of March) within 150m of Roost 1 or 2 and for a period extending 1.5 hours either side of high water (3 hours in total).	



- Adopt sensitive working methods such as operating plant and machinery slowly and plant operators only entering and exiting their vehicles at designated sites away from the roost locations.

Conclusion

With these mitigation measures in place it is considered that the risk is reduced to the extent that there would be no adverse effect on the integrity of Traeth Lafan SPA, with no residual effects on any of the Conservation Objectives of the features of these sites.

Table 11. Adverse effect on the integrity of the European site

Impact on Conservation Objectives – Traeth Lafan SPA	
Conservation Objectives for the site The conservation objectives for Traeth Lafan SPA specifically refer to the oystercatcher specie. No specific objectives are provided for either curlew or great crested grebe, however it is considered reasonable to assume that for curlew, objectives would be broadly the same as for oystercatcher.	Outcome
Conservation Objective for Feature 1: Oystercatcher (<i>Haematopus ostralegus</i>)	
1.The 5 year mean peak of the number of wintering oystercatchers is at least 4,000	No adverse effects on integrity
2. The abundance and distribution of cockles of 15mm or larger and other suitable food are maintained at levels sufficient to support the population with a 5 year mean peak of 4,000 individuals	No adverse effects on integrity
3. Oystercatchers are not disturbed in ways that prevent them spending enough time feeding for survival	No adverse effects on integrity
4. Roost sites, including high roost sites, remain suitable for oystercatchers to roost undisturbed	No adverse effects on integrity
5. The management and control of activities or operations likely to adversely affect oystercatchers, is appropriate for maintaining the	No adverse effects on integrity

feature in favourable condition and is secure in the long term	
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Table 10. Mitigation Measures Proposed to Reduce or Avoid Impacts on European Sites

Mitigation Proposed	Impact Reduced/Avoided	European Site Affected	Site Features Affected
• Implement best practice to ensure good housekeeping, for example ensuring all machinery used is kept in good repair and subject to regular checks; • Ensure all fuel and other potentially hazardous chemicals is stored in a safe compound at a distance of at least 10m from the shoreline; • Use biodegradable lubricant and hydraulic oil in plant machinery is possible. Biodegradable oils are less toxic than most synthetic oil but should still be stored to the same standards as other oils and prevented from entering the water environment. • Production of a Construction Environmental Management Plan (CEMP) with pollution prevention measures noted within the plan	Construction related pollution and disturbance	Menai Strait and Conwy Bay SAC	Sandflats and mudflats Water quality
• Consider the seasonal timings of the works as disturbance is likely to have a negative impact on important high tide roosts during the winter months. • Activities that will generate high-level disturbance stimuli, notably percussive sheet piling (but less so 'silent piling' solutions), should be undertaken April-August when the impact on roosting waders will be minimal. • Introduce disturbance buffers. Therefore, no heavy construction works to be undertaken during the autumn and winter months (from September through to the end of March) within 150m of Roost 1 or 2 and for a period extending 1.5 hours either side of high water (3 hours in total). • Adopt sensitive working methods such as operating plant and machinery slowly and plant operators only entering and exiting their vehicles at designated sites away from the roost locations.	Disturbance of wintering birds	Traeth Lafan SPA	Oystercatcher Redshank (Annex II listed)

6.0 IN-COMBINATION ASSESSMENT

6.1 Purpose

The test for likely significant effect in Regulation 63(1) of the Habitats Regulations is that effects should be assessed 'either alone or in combination with other plans or projects'.

For the avoidance of doubt, the Regulations identify that an in-combination assessment is required only during the screening stage and only where an impact is identified which would have an insignificant effect on its own (a 'residual' effect) but where likely significant effect may arise cumulatively with other plans or projects.

Cumulative effects are those which make the effect more likely or more significant. Thus, where likely significant effects can be ruled out alone, there is no need for an assessment in combination because if there is no effect, it cannot add anything to an in-combination or cumulative assessment.

At the screening stage of the assessment, however, it can be difficult to distinguish between likely significant and insignificant effects where the exercise is meant to be brief. This HRA therefore assumes that any credible effect identified is assessed *alone with no residual effects*. This allows all possible effects to be captured for more detailed scrutiny in the appropriate assessment.

Despite this, further scrutiny may modify this opinion and the need for an in-combination assessment may subsequently be required as described in the Handbook:

'...at a later stage when the appropriate assessment concludes that a plan or project screened as having a likely significant effect alone will not, upon further investigation, be likely to have such an effect alone, but could have such an effect in combination. In (this) situation, the appropriate assessment will need to be extended, in order to address in combination effects to inform the integrity test bearing in mind the potential for cumulative effects.'

As a result, in-combination effects are therefore considered in the appropriate assessment, which has two functions. The first function is to consider whether further scrutiny of the appropriate assessment can identify that an effect, previously identified as significant alone, was not of sufficient magnitude to justify this outcome and should have been identified as a residual effect and considered in-combination.

Secondly, it explores if possible residual adverse effects on the integrity of the site that were ruled out alone could lead to a significant adverse effect when considered in-combination. This employs best practice by considering cumulative effects at all stages of the HRA.

As this HRA concluded that the level of risk associated with each of the identified likely significant effects merited appropriate assessment *alone*, there were *no residual effects* and no need for an in-combination assessment. Furthermore, it found that the outcome of the Appropriate Assessment stage was no adverse effect on site integrity with no residual effects for any of the impacts identified. Therefore, there is no need to carry out the additional in-combination assessment of these potential impacts. The individual Integrity Tests for each

issue evaluated in the appropriate assessment therefore stand with no need for further scrutiny and can be carried forward into the Formal Integrity Test in Section 7.

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7.0 FORMAL INTEGRITY TEST / CONCLUSION

This HRA subjected the potential effects of the proposed works to an appropriate assessment and integrity test in accordance with the statutory procedures laid out in the Habitats Regulations 2017 (as amended) using methodology described in the Habitats Regulations Assessment Handbook (Tyldsley and Chapman, 2018 edition). As a result of this assessment, it can be ascertained that:

The assessment found that although the proposed works could result in potential construction derived pollution and potential disturbance of wintering birds, the risk of a likely significant effect was fairly low due to the size and dispersal of both SPA and SAC and their qualifying features. Furthermore, with the application of mitigation measures, the risk could be reduced to an extent that there would be no adverse effect on the integrity of the Menai Strait and Conwy Bay SAC and Traeth Lafan SPA with no residual effects.

Although this HRA has been prepared to help the Authority discharge its duties under the Habitats Regulations, the Authority remains the competent authority and it must decide whether to adopt the conclusions and recommendations of this report, or otherwise, for the purpose of their own assessment. If accepted, consultation with the statutory nature conservation body is required.

8.0 REFERENCES

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APPENDICES

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Appendix A: European sites potentially at risk (full table)

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(1) All projects (terrestrial, marine, coastal)	Sites within which the project is wholly or partially located	None	This criterion identifies all the European sites within the footprint of the scheme.	None
(2) Projects that could affect wetland features	(a) Sites upstream or downstream of the project location in the case of river or estuary sites	None	Effects considered are those associated with the physical presence of built development and the localised effects on surface/groundwater resources and quality, resulting from changes in run-off, sedimentation, erosion, etc.	None
	(b) Open water, peatland, fen, marsh and other wetland sites with relevant hydrological links to the project, irrespective of distance from the project location			
(3) Projects that could affect the marine environment	Sites that could be affected by changes in water quality, currents or flows; or effects on the intertidal or sub-tidal areas, or the seabed, or marine species	Menai Strait and Conwy Bay SAC Traeth Lafan SPA	Effects considered are those of a wider, more strategic scale than (2) above. The project is considered as a possible impact on the marine environment. In particular the water quality and intertidal and sub-tidal areas and marine species.	Menai Strait and Conwy Bay SAC
(4) Projects that could affect the coast	Sites in the same coastal 'cell', or part of the same coastal ecosystem, or where there are interrelationships with or between different physical coastal processes	See 3 above	Effects considered are those of a wider, more strategic scale than (2) above. See 3 above.	See 3 above

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(5) Projects that could affect mobile species	Sites whose qualifying features include mobile species which may be affected by the project irrespective of the location of the project or whether the species would be in or out of the site when they might be affected	Menai Strait and Conwy Bay SAC Traeth Lafan SPA Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Glynllifon SAC (Bats) Meirionnydd Oakwoods and Bat Sites (Bats) Gwydir Forest Mines SAC (Bats).	This considers direct impacts of the scheme on mobile species within or outside the designated sites. Mobile species are those considered to spend part of their life-cycle on land, in water or air beyond the designated site boundary. Typically, it focuses on potential impacts on functionally-linked land and water utilised by bird, mammals or fish associated with European sites. Note that 'indirect' effects on mobile species on functionally – linked land or water beyond the development site, is considered under other criteria below, such as '6. Recreational pressure', and '14. Disturbance'. Wintering birds, in particular Oystercatcher and Redshank are mobile features of Traeth Lafan SPA and have been recorded roosting within the proximity of the proposed works. Lesser horseshoe bat is a mobile species feature of the Meirionnydd Oakwoods and Bat Sites SAC, Glynllifon SAC and Gwydir Forest Mines SAC and could utilise the land within or adjacent to the area of proposed works for foraging. Otter is a mobile species feature of the Afon Gwyrfaï and Llyn Cwellyn SAC. The intertidal area and scrub within the proximity of proposed works provide suitable foraging and resting habitat for otters.	Traeth Lafan SPA Afon Gwyrfaï and Llyn Cwellyn SAC (Otters) Glynllifon SAC (Bats) Meirionnydd Oakwoods and Bat Sites (Bats) Gwydir Forest Mines SAC (Bats).

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(6) Projects that could increase recreational pressure on European sites where qualifying features are sensitive to such pressures	(a) European sites within which the project would be wholly or partly located (b) Such European sites within an agreed zone of influence or other reasonable and evidence-based travel distance of the project location that may be affected by local recreational or other visitor pressure generated by the project (c) Such European sites within an agreed zone of influence or other evidence-based longer travel distance of the project, which are major (regional or national) visitor attractions such as European sites which are National Nature Reserves where public visiting is promoted, sites in National Parks, coastal sites and sites in other major tourist or visitor destinations	None	The project is not considered to increase recreational pressure on European sites. Therefore, direct effects on European sites from increased recreational pressure can be ruled out of any further consideration.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
(7) Projects which could increase the amount of development	(a) Sites that are used for, or could be affected by, water abstraction irrespective of distance from the project	None	The proposed improvement works would not comprise of any such activities. Therefore, direct effects on European sites from increased development can be ruled out of any further consideration.	None
	(b) Sites used for, or could be affected by, discharge of effluent from wastewater treatment works or other waste management streams serving the project, irrespective of distance from the project			
	(c) Sites that could be affected by the provision of new or extended transport or other infrastructure			
	(d) Sites that could be affected by increased deposition of air pollution arising from the proposals, including emissions from significant increases in traffic			
(8) Projects comprising linear developments or infrastructure	Sites within a specified distance from the centre line of the proposed route (or alternative routes), the distance may be varied for differing types of	None	This HRA has adopted a 2km radius in which to evaluate the potential impacts of the proposed works. Individual effects are identified in other criteria. This criterion does not identify the types of potential impacts which are, instead, more closely defined by other criteria as listed above or below. Therefore, column 5 has been left blank as attention	See other criteria

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
	site/qualifying features and in the absence of established good practice standards, distances(s) to be agreed by the statutory conservation body		is drawn to more specific criteria.	
(9) Projects that introduce new activities or new uses into the marine, coastal or terrestrial environment	Sites considered to have qualifying features potentially vulnerable or sensitive to the effects of the new activities proposed by the project	None	The project is not considered to introduce new activities or uses into the environment.	None
(10) Projects that could change the nature, area, extent, intensity, density, timing or scale of existing activities or uses	Sites considered to have qualifying features potentially vulnerable or sensitive to the effects of the changes to existing activities proposed by the project	None	The proposed work would not in itself pose a threat to any of the features of the protected sites.	None
(11) Projects that could change the quantity, quality, timing,	Sites considered to have qualifying features potentially vulnerable or sensitive to the changes in emissions or discharges that could arise as a	None	The project is not considered to change the the quantity, quality, timing, treatment or mitigation of any emissions or discharges to air, water or soil harvested, extracted or consumed.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
treatment or mitigation of emissions or discharges to air, water or soil harvested, extracted or consumed	result of the project, over and above those already identified project may affect, for example as prey species or supporting habitat or which may be disturbed by the harvesting, extraction or consumption			
(12) Projects that could change the quantity, volume, timing, rate or other characteristics of biological resources harvested, extracted or consumed	Sites whose qualifying features include the biological resources which the project may affect, or whose qualifying features depend on the biological resources which the project may affect, for example prey species or supporting habitat which may be disturbed by the harvesting, extraction or consumption	None	No such activities are proposed and changes to biological resources that might affect qualifying features on all European sites listed can be ruled out of any further consideration.	None
(13) Projects that could change the quantity, volume, timing, rate, or other characteristics of physical resources	Sites whose qualifying features rely on the physical resources which the project may affect, for example, as habitat or a physical environment on which habitat may develop or which may be disturbed by the extraction or consumption	None	The proposed works would not cause changes to any physical resources extracted or consumed.	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
extracted or consumed				
(14) Projects which could introduce or increase, or alter the timing, nature or location of disturbance to species	Sites whose qualifying features are considered to be potentially sensitive to disturbance, for example as a result of noise, activity or movement or the presence of disturbing features that could be brought about by the project	Traeth Lafan SPA Afon Gwyrfa and Llyn Cwellyn SAC (Otters) Glynllifon SAC (Bats) Meirionnydd Oakwoods and Bat Sites (Bats) Gwydir Forest Mines SAC (Bats).	Seasonal timings of the works could have a negative impact on the wintering bird features designated within Traeth Lafan SPA. Time of day could have a negative impact on nocturnal species such as bats and otters.	Traeth Lafan SPA Afon Gwyrfa and Llyn Cwellyn SAC (Otters) Glynllifon SAC (Bats) Meirionnydd Oakwoods and Bat Sites (Bats) Gwydir Forest Mines SAC (Bats).
(15) Projects which could introduce or increase or change the timing, nature or location of light or noise pollution	Sites whose qualifying features are considered to be potentially sensitive to the effects of changes in light or noise that could be brought about by the project	Menai Strait and Conwy Bay SAC Traeth Lafan SPA	There would be some localised temporary noise pollution during the construction period, Furthermore the works will be undertaken during daylight hours only, and no temporary or permanent lighting is proposed that may impact on otters and bats.	None
(16) Projects which could introduce or increase a potential cause	Sites whose qualifying features are considered to be potentially sensitive to the source of new or increased mortality that could be	None	The proposed works are not considered to introduce or increase a potential mortality of species. No further consideration is required. Impacts to mobile species is covered under (5).	None

Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
of mortality of species	brought about by the project			

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www.dtapublications.co.uk

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