Tywyn Neptune Road Slipway Repair

Habitats Regulations Assessment

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Reviews

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Appendices

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

Gwynedd Council have commissioned YGC to undertake a Habitats Regulations Assessment (HRA) for proposed beach slipway repair works near Neptune Road, Tywyn. The existing slipway has suffered partial collapse due to lowering beach levels, where material has been lost from the base of the slipway, leaving cavities underneath.

The proposed project involves constructing a cut-off wall in front of the slipway to prevent further wash-out of the base, before reconstructing the slipway deck. The total length of the slipway is approximately 30m.

Gwynedd Council are required to undertake a HRA to ascertain whether the proposed scope of works has the potential to result in a likely significant effect on any European protected sites.

The sites assessed in this HRA include; Pen Llyn a'r Sarnau SAC, West Wales Marine SAC and Northern Cardigan Bay SPA which are likely to be impacted most by the proposed works, due to the distance of the sites and sensitivity of the designations.

Following a Screening assessment, the first stage of the HRA identified that without appropriate mitigation measures in place, the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC and its designated features would be at risk from pollution as a result of plant machinery on the border of the

SAC. The mobile features of the Cardigan Bay SPA would also be at risk of disturbance during construction, therefore, this site was taken to the appropriate assessment stage.

The appropriate assessment of all three above mentioned protected sites concluded that with the appropriate mitigation measures (outlined in table 12) would be sufficient to prevent any likely significant or residual effects on the site and its designated features.

This HRA follows best practice and takes full account of policy and law. Importantly, although this HRA has been prepared to help the Authority discharge its duties under the Habitats Regulations, the Local Authority is the competent authority and it must decide whether to adopt this report or otherwise.

1.0 INTRODUCTION

Gwynedd Council have commissioned YGC to undertake a Habitats Regulations Assessment (HRA) for proposed beach slipway repair works near Neptune Road, Tywyn. The existing slipway has suffered partial collapse due to lowering beach levels, where material has been lost from the base of the slipway, leaving cavities underneath.

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

The proposed project involves constructing a cut-off wall in front of the slipway to prevent wash-out before reconstructing the slipway deck. The total length of the slipway is approximately 30m.

1.1 Background

Neptune Road slipway is one of the four primary access slipways to the beach at Tywyn, Gwynedd. At Neptune Road, there are two slipways located opposite each other. Lowering beach levels has caused the undermining of the northern slipway at this location, resulting in the formation of a large cavity in the base of the slipway, causing a lowered and unstable ramp. As a result, the slip was closed in 2023 restricting access towards the beach for visitors.

The proposed project involves constructing a sheet-piled cut-off wall in front of the slipway to prevent washout before reconstructing the slipway deck. The proposed works also involve extension of the slipway to meet existing beach levels, and also demolition and re-construction of the existing steps to the rear of the slipway. Drawings *12531-DE010_GA_01* and *12531-DE010_GA_02* have been submitted as part of the application and are contained in Appendix C of this document.

The works are likely to include the following activities and will be timed to avoid periods of high-tide:

- Excavation in front of existing slipway to suitable formation level and set material aside for re-use;
- Break up and remove existing concrete steps at rear of structure;
- Installation of sheet piles around base of structure using excavator with piling hammer attachment (piling likely to occur for two weeks on low tide);
- Fixing of reinforcement through sheet piles into existing concrete wall;
- Erect formwork and cast in situ capping beam for new pile lines as shown in GA drawings – concrete to be pumped from promenade above;
- Remove formwork and backfill trench using previously excavated material;
- Break existing deck slabs into void beneath structure and use 6N granular fill to raise levels to underside of slab, working one bay at a time from top of structure;
- Fix reinforcement, erect formwork and pour concrete for replacement deck;
- At rear of structure excavate to suitable formation level for installation of new steps and set material aside for re-use;
- Erect formwork for new access steps and pump concrete from promenade above;
- Remove formwork and backfill trench using previously excavated material;

The southern slipway will be used as an access point onto the beach to carry out the proposed works with the vehicles tracked to site via the boundary of the existing slipways.

1.2 Authors

This HRA has been prepared by:

- Elin Mirain Roberts BSc (Hons), ACMI, AIEMA – YGC Environment Officer with 3 years consultancy experience, including HRA and Environmental Impact Assessment (EIA) of large projects.
- David Harries MSc CIEEM CEnv with over 15 years of ecological consultancy experience, including HRA and Ecological Impact Assessment (EcIA) of large projects

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 1 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.

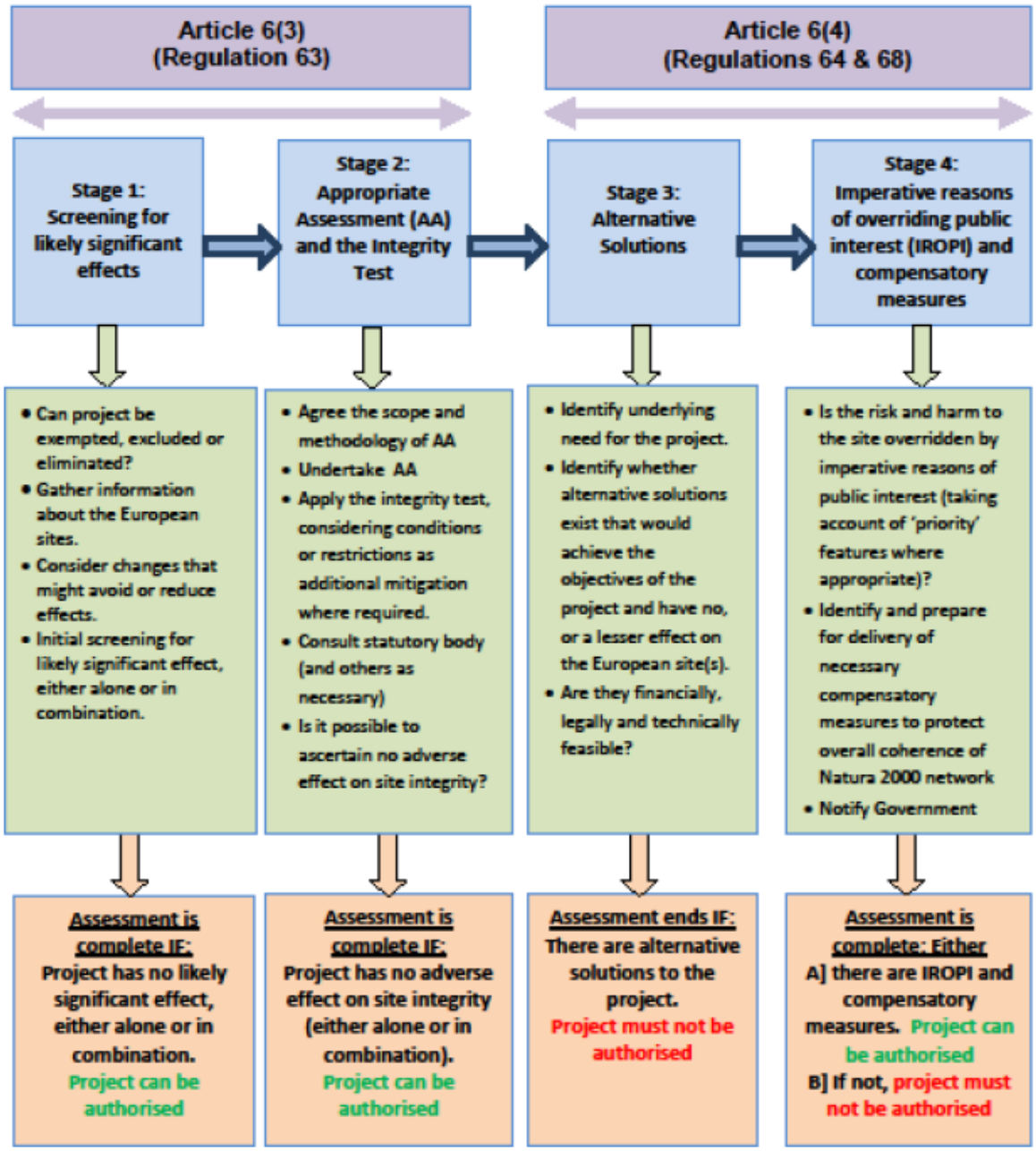

Figure 1. Outline of the four-stage approach to the Habitats Regulations Assessment of projects

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.

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 proposal 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 precautionary 10km 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 Gwynedd', the Gwynedd Council GIS database, the sites within this area are listed in Table 2 below.

In some instances, sites require a larger search radius of up to 30km if they support highly mobile qualifying species such as bats or otters that could be affected by the proposed works. Otters are a feature of the Pen Llyn a'r Sarnau SAC and have also been recorded (Cofnod) on the Afon Dyffryn-gwyn, the estuary of which is located approximately 500m south of the proposed works. A buffer zone of 25km is typically applied for assessing impact on sites with otter as a qualifying mobile species. Other than the Pen Llyn a'r Sarnau SAC which is within 150m of the proposed works, there are no other protected sites designated with otters as a feature within screening distance.

Table 2. European sites within 10km of the proposed works (or further if mobile species features could be affected).

European site	Distance
Pen Llyn a'r Sarnau SAC	150m west of proposed works.
West Wales Marine SAC	150m west of proposed works.
Northern Cardigan Bay SPA	1.6km west of proposed works.
Dyfi Estuary SPA	5km south-east of proposed works.
Cors Fochno SAC	7.3km south-east of proposed works.
Craig yr Aderyn SPA	8.9km north-east of proposed works.
Meirionnydd Oakwoods and Bat Sites SAC	15.7km north-east of proposed works

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 B. 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).

Off the 22 criteria listed, four were considered to be a credible threat to European sites in the area and are presented in Table 3 below, with Columns 2 and 3 from Appendix B omitted. 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 (2): 'Projects that could affect wetland features' is also covered here as the wetland features in this case are all marine)	**Critereon 3 involves sites that 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.** The proposed works is taking place 150m east of the boundary of the Pen Llyn a'r Sarnau SAC and the West Wales Marine SAC. All works will be carried out from dry land, with excavations and sheet-piling carried out during low tide. There is some potential for the proposed works to cause adverse pollution impacts on the immediate and surrounding Pen Llyn a'r Sarnau SAC and West Wales Marine SAC habitats during construction due to a tidal impact pathway. The proposal is to repair the existing slipway on the existing footprint therefore it is not likely that there will be any significant change in the hydraulic conditions as a result of the works. The Northern Cardigan Bay SPA is hydrologically connected to the proposed works (1.6km west) and could potentially be affected by adverse pollution impacts during construction. Given the nature and the scale of the proposed works, the distance of the works from the SAC and the high dilution factor associated with the marine environment, it is not likely that this site would suffer significant effects from pollution during construction. However, there is potential for effects on the habitats of the red-throated diver outside of the SAC, which is considered under criteria 5. Given the distances of the Dyfi Estuary SPA, Craig yr Aderyn SPA and Cors Fochno SAC from the proposed works and given the small-scale nature of the proposed works, it is not likely that these sites would suffer significant effects from the proposal. Therefore, potential effects on features of these sites are scope out. **Effects on the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC cannot be ruled out and further consideration is required.**	Pen Llyn a'r Sarnau SAC West Wales Marine 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.**	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	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 the birds, mammals and migratory fish that are associated with the European sites listed. The Pen Llyn a'r Sarnau SAC has mobile features that include otter, grey seal and bottlenose dolphin. Although there are no works scheduled to take place in the SAC, due to the close proximity to the proposed works, impacts on these species as a result of the works are likely through disturbance and or through water pollution. The Northern Cardigan Bay has mobile species features that include red-throated diver (non-breeding). There is some potential for the qualifying bird feature, its only feature, to be affected by the proposed works when they are using supporting habitats adjacent to but outside the site itself. These impacts could be through disturbance or noise pollution caused by the plant machinery and site personnel that would be needed on site for the proposed works. No works will take place within the SPA itself, with the site located 1.6km from the SPA at its closest point. Densities of the red-throated divers range between 0.01 birds/km^2 at the edges of the site up to 2.75 birds/km^2 in the core of the SPA. Sarn y Bwlch, which starts from near Tywyn is the smallest of the three sarn's in the SPA. The sarn is a shallow reef which are an important ecological habitat within the Northern Cardigan Bay SPA and are known for supporting the red-throated drivers. The West Wales Marine SAC has mobile features that are able to move beyond the boundaries of the site, including the harbour porpoise (*Phoecoena phoecena*) and may be present in the marine environment surrounding the works. Although there are no proposed works within the West Wales Marine SAC itself, due to its close proximity to the proposed works, its designated features are at risk of noise and construction related disturbance pollution as a result of the works. While the Meirionnydd Oakwoods and Bat Sites SAC has mobile species features, namely lesser horseshoe bats. Given the distance of these sites from the proposed works, and the small size and nature of the proposed works, the likelihood of significant harmful effects can be ruled out.	West Wales Marine SAC

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	Therefore, at this stage the potential for harmful effects on the Pen Llyn a'r Sarnau SAC, Northern Cardigan Bay SPA and West Wales Marine SAC and its features cannot be ruled out and further consideration is required.	
(14) Projects which could introduce or increase, or alter the timing, nature or location of disturbance to species	**Criterion 14 denotes all 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.** This considers direct impacts of the scheme on qualifying species within or outside European sites nearby. The proposed works has the potential to increase the degree of disturbance to the mobile qualifying bird species of the Northern Cardigan Bay especially during the winter months (due to being classed as wintering birds). It also poses a potential to disturbe the movement of otters associated with the Pen Llyn a'r Sarnau SAC and disturbance of the harbour porpoise associated with the West Wales Marine SAC. Disturbance from construction noise and sheet-piling / movement of machinery is considered to be temporary for the duration of the proposed works (approximately 3-4 weeks). After construction, there would be no increase in disturbance to species.	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA
(15) Projects which could introduce or increase or change the timing, nature of location of light or noise pollution	**Criterion 15 includes 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.** There is likely to be a temporary increase in noise pollution during the construction period through construction machinery (including sheet-piling activities) and human activity on site. This could potentially cause a low level of disturbance to the mobile species features of the protected sites directly in the locality, namely otter, grey seal, bottlenose dolphin (features of the Pen Llyn a'r Sarnau SAC), harbour porpoise (West Wales Marine SAC) and the red-throated divers (Cardigan Bay SPA). Works would be undertaken during daylight hours when otter activity is minimal. There would be no additional artificial lighting of the site. As above, the proposed works are likely to create a temporary increase in noise levels during the course of the works, potentially impacting lesser horseshoe bats. Cofnod records do not indicate the presence of a lesser horseshoe bat roost within 1km of the proposed works. Effects on foraging bats would be minimal as works will be undertaken during daylight hours and there would be no artificial lighting on site.	Pen Llyn a'r Sarnau SAC

Types of project (or potential effects)	Sites to scan for and check (and additional context)	List of European sites potentially at risk
	Although designated for its mobile features, given the nature of the works and the distance of the Northern Cardigan Bay SPA from the proposal, it is not considered likely that Criterion 15 would be impacted in this case. Therefore, effects of noise pollution on species features of the Pen Llyn a'r Sarnau SAC cannot be ruled out and further consideration is required. *Note: There is a close link between criterion 15, 14 and 5 above.*	

2.3 Initial outcome of site identification exercise

Following the initial high-level preliminary screening exercise provided by Table 3 above and Appendix B (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 and 15, which can all effectively be represented by 'disturbance of mobile features'. The remaining criterion included, Criterion 3, can be represented by 'pollution of the marine environment'. 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
Pollution of the marine environment (during construction)	(3) and (5)	Pen Llyn a'r Sarnau SAC West Wales Marine SAC
Disturbance of species features (including from noise pollution) (during construction)	(5), (14) and (15)	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA West Wales Marine SAC

Table 4 above demonstrates that potential impacts remain, 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 improvement 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 table (Table 5) below therefore collates additional information for the identified sites, including a site description and list of qualifying features, and uses 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 (NRW) and JNCC websites. If necessary more detailed descriptions of the site will be provided at the Appropriate Assessment stage, including the conservation objectives, which are also provided in Appendix A, but the information in Table 5 below is sufficient for the screening stage. A map of the site boundary of sites are included in Appendix F.

In-depth analysis is not required at the screening stage as it is 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 Pen Llyn a'r Sarnau SAC

Pen Llyn a'r Sarnau SAC

Qualifying features

Habitat features;

- Reefs
- Large shallow inlets and bays
- Sandbanks which are slightly covered by seawater all the time
- Estuaries
- Coastal lagoons
- Mudflats and sandflats not covered by seawater at low tide
- Atlantic salt meadows
- Salicornia and other annuals colonising mud and sand
- Submerged or partially submerged sea caves

Species features;

- Grey seal *Halichoerus grypus*
- Bottlenose dolphin *Tursiops truncatus*
- Otter *Lutra lutra*

Description

The Pen Llŷn a'r Sarnau SAC encompasses areas of sea, coast and estuary that support a wide range of different marine habitats and wildlife. The nature of the seabed and coast and the range of environmental conditions present vary throughout the SAC. Differences in rock and sediment type, aspect, sediment movement, exposure to tidal currents and wave action, water clarity and salinity together with biological and food chain interactions have created a wide range of habitats and associated communities of marine plant and animal species, some of which are unique in Wales. Pen Llŷn a'r Sarnau SAC is a multiple interest site that has been selected for the presence of 9 marine habitat types and associated wildlife (Habitats Directive Annex I habitat types) and 3 mammal species (Habitats Directive Annex II species).

The features are distributed throughout the SAC with no single feature occupying the entire SAC and with features overlapping in some locations. The SAC boundary and the general location of the Annex I habitat features are shown in the feature map17. These are indicative maps as the extent of most features is not known precisely and some, such as sandbanks, are dynamic and can be highly mobile. A number of habitats and species within the SAC are listed in the Section 7 list of habitats and species of principal importance in Wales and in the OSPAR list of threatened and declining species and habitats. Three Special Protection Areas (SPAs) occur within the Pen Llŷn a'r Sarnau SAC: Glannau Aberdaron ac Ynys Enlli SPA, Mynydd Cilan, Trwyn Y Wylfa ac Ynysoed San Tudwal SPA and Aber Dyfi SPA. The conservation objectives and core management plans for these protected sites can be found on the NRW website.

Potential Threats / Vulnerabilities

1) Disturbance of species features:

The Pen Llyn a'r Sarnau SAC is located 150m west of the proposed works at its closest point, posing a risk to mobile species features of this site, which could be vulnerable to disturbance impacts during the course of the works. Any disturbance is likely to be from plant machinery derived noise, sheet-piling using an excavator pile hammer and human presence/activity.

There are Cofnod records of otter spraints within 600m of the proposed works, adjacent to the Afon Dyffryn Gwyn (600m southeast of the proposed works). Due to the exposed nature of the site within a populated area and busy beach, the presence of artificial lighting and the tidal inundation of the

beach front, it is not considered likely that the proposed works area would support otter holt opportunities or resting sites.

There is likely to be some temporary noise pollution during the works that could potentially cause a low-level disturbance on any foraging otters within the wider area. However, such disturbance would be temporary. In addition, any works would be undertaken during daylight hours when otter activity is minimal and therefore no additional to the existing artificial lighting would be required on site.

No resting sites would be disturbed to accommodate the proposed works. It is considered that even if any otters foraging during daylight hours in the vicinity was to be temporarily disturbed during the construction period, it is not considered realistic to quantify this as a significant adverse effect on the conservation objectives of the otter feature. For this reason, disturbance impact on otters is therefore scoped out of any further assessment.

Due to no works being proposed within the water column (works to be carried out in the dry only) scheduled it is not considered likely that the proposed works will have a likely significant effect on grey seals and bottlenose dolphins. For this reason, these features of the SAC are to be scoped out of any further assessment.

Outcome: No further assessment required in relation to the potential disturbance to the features of the Pen Llyn a'r Sarnau SAC.

2) Pollution of habitat features and foraging habitat for mobile species:
It is possible that the machinery used for works on site could be a source of pollution, which could directly affect the intertidal mudflats and sandflats feature associated with the SAC and other marine habitats nearby. Construction activities could also result in increased sedimentation due to working around the water environment. The marine environment does hold a high dilution factor, however due to being within 500m of the proposed works, pollution effects on the SAC cannot be scoped out at present.

Cofnod records have concluded otter presence within 600m of the proposed works (south-east by Afon Dyffryn Gwyn estuary). Deterioration in water quality could potentially impact on otters and could result in reduction of prey availability (fish) in the area around the estuary of the river. Although this poses a low risk of having a significant effect due to the nature and scale of works and given the abundance of suitable foraging habitat elsewhere in the local area alongside the large range of the otter, it is included here as a likely significant effect on a precautionary basis.

Bottlenose dolphin and grey seal are also mobile features of the Pen Llyn a'r Sarnau SAC, however there are no recorded data of these species within 1km of the proposed works. Both these species will forage widely and any decline in a particularly small area may not immediately impact these populations. The sheet piling is scheduled over a two-week period at low tide only. As a result, and due to the scale and nature of the proposed works and the high dilution factor associated with the marine environment, pollution impacts are likely to be local. Given this information and the characteristics of both species, it is not considered likely that there will be any significant impact on the bottlenose dolphin and grey seal from pollution impact.

Outcome: Further assessment of the potential pollution impacts to the Pen Llyn a'r Sarnau SAC should be undertaken to ascertain the extent of the impact to the site and its designated features.

<u>Summary of Likely Significant Effects and Features requiring Appropriate Assessment</u>
Pollution to surrounding intertidal mudflats and sandflats habitat associated with the SAC including otter foraging habitat during the construction phase.

Table 6. Screening Assessment for Northern Cardigan Bay SPA

Northern Cardigan Bay SPA
Qualifying features Red-throated diver (non-breeding), *Gavia stellate.* Description Northern Cardigan Bay / Gogledd Bae Ceredigion SPA, as the name suggests occupies the northern half of Cardigan Bay on the west coast of Wales. Several rivers flow into the northern part of Cardigan Bay including the Dwyfach, Glaslyn/Dwyryd, Wnion, Dysynni, Leri, Mawddach and Dyfi. The coastline is dominated by rocky cliffs and shores with occasional sandy beaches and estuaries. Where estuaries flow into northern Cardigan Bay, the sea quickly becomes more than 20 metres deep, but elsewhere remains shallow (less than 10m deep) for up to 20km offshore. These shallow areas are sub-tidal shingle reefs, known as the sarnau. All three of the sarnau lie roughly north-east to south-west and are presumed to be formed from glacial deposits left at the end of the last ice age. Sarn Badrig is the largest and most northerly sarn, running parallel with the Llŷn Peninsula from Harlech up to 24 km offshore. Sarn y Bwlch is the smallest sarn, starting from near Tywyn. Sarn Cynfelyn, the most southerly sarn, starts from north of Aberystwyth. These shallow reefs are important ecological habitats within the Northern Cardigan Bay / Gogledd Bae Ceredigion SPA and are important features of the Pen Llŷn a'r Sarnau Special Area of Conservation (SAC), designated under the EC Habitats and Species Directive. The two tidal streams that enter the Irish Sea, from the north near the Isle of Man and the south through the St George's Channel, meet in the vicinity of Cardigan Bay resulting in weak tidal currents in the area. The tidal range in the bay is up to 4m at a spring tide. Potential Threats / Vulnerabilities *1) Pollution of marine environment outside of SPA (including foraging habitat for mobile features)* The SPA is located 1.6km west of the proposed works. The SPA is hydrologically connected to the proposed works however given the nature and scale of the works and the dilution factor associated with the marine environment, it is considered highly unlikely that any construction related pollution could impact the SPA itself. However, any localised pollution contamination could potentially impact upon the SPA's mobile species feature, the red-throated diver, which could potentially be present in the marine environment in the vicinity of the proposals for foraging. It is considered unlikely that any habitat further than 500m away from the proposed works would suffer significant effects from pollution during construction, therefore any such contamination would be localised in nature. This could potentially effect upon feeding grounds and prey availability of the red-throated diver, however, given the availability of suitable habitat elsewhere and the large range of the species, it is not considered likely that this poses a significant threat to the conservation objective of this feature. *Outcome:* No likely significant effect. *2) Disturbance of species features:* The SPA is located approximately 1.6km west of the proposed works at its closest point so there is a risk that the mobile species features of this site could be open to minimal disturbance impacts during the course of the works.

As the proposed works are not located directly adjacent to or within the SPA, the risk is reduced but it is possible that there could still be an impact on the red-throated diver, which has been recorded within 1km of the proposed works within the last five years according to the Cofnod data. It is noted in the Conservation Advice for the Liverpool Bay SPA site (Natural England, 2012) that noise impacts on red-throated divers are most significant within 150m of the source, although impacts may occur up to 1000m away. This was specifically referring to the construction of wind farms but at this stage it is considered best to take the precautionary approach and consider a significant effect possible. Any disturbance is likely to be from noise and human presence/activity.

However, given that the works will be carried out within the intertidal area, during low tide and are strictly limited to this area it is unlikely that the works will disturb the foraging of the species during the period of the works.

Outcome: No likely significant effect

Table 7. Screening Assessment for West Wales Marine SAC

West Wales Marine SAC
Qualifying features Harbour Porpoise *(Phocoena phocoena)* Description This SAC has been selected primarily based on the long-term, relatively higher densities of porpoise in contrast to other areas of the MU. The implication is that the SAC provides relatively good foraging habitat and may also be used for breeding and calving. However, because the number of harbour porpoise using the site naturally varies (e.g. between seasons), there is no exact value for the number of animals expected within the site. The intent of this objective is to minimise the risk of injury and killing or other factors that could restrict the survivability and reproductive potential of harbour porpoise using the site. Specifically, this objective is primarily concerned with operations that would result in unacceptable levels of those impacts on harbour porpoises using the site. Unacceptable levels can be defined as those having an impact on the FCS of the populations of the species in their natural range. The reference population for assessments against this objective is the MU population in which the SAC is situated (IAMMWG, 2015). The harbour porpoise is a European Protected Species (EPS) listed on Annex IV of the Habitats Directive and as such is protected under the Habitats Directive Article 12 and transposing regulations from deliberate killing (or injury), capture and disturbance throughout its range. In addition, Article 12 (4) of the Habitats Directive is concerned with incidental capture and killing. It states that Member States 'shall establish a system to monitor the incidental capture and killing of the species listed on Annex IV (all cetaceans). In the light of the information gathered, Member States shall take further research or conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned'. Site based measures should therefore be aligned with the existing strict protection measures in place throughout UK waters. Significant disturbance within or affecting the site is considered in the second conservation objective. Disturbance of harbour porpoise typically, but not exclusively, originates from operations that cause underwater noise including, as examples, seismic surveys, pile driving and sonar. Responses to noise can be physiological and/or behavioural. JNCC has produced guidelines to minimise the risk of physical injury to cetaceans from various sources of loud, underwater noise. However, disturbance is primarily a behavioural response to noise and may, for example, lead to harbour porpoises being displaced from the affected area. This SAC was identified as having persistently higher densities of harbour porpoises (Heinänen and Skov, 2015) compared to other areas of the MU. This is likely linked

to the habitats within the site providing good feeding opportunities. Therefore, operations within or affecting the site should be managed to ensure that the animals' potential usage of the site is maintained. Disturbance is considered significant if it leads to the exclusion of harbour porpoise from a significant portion of the site.

Potential Threats / Vulnerabilities

1) Disturbance of species features:

The West Wales Marine SAC is located 150m west of the site. Cofnod records have concluded no data records of harbour porpoise within a 1km radius of the proposed works. Due to the sheet piling works being carried out during low tide only it is not anticipated that the works will result in significant sub littoral projected noise. As a result of both above reasons, it is not considered that the works will impact the West of Wales Marine SAC site or its designated feature, the harbour porpoise.

Outcome: It is considered that there is no significant threat or impact from disturbance to the harbour porpoise, a designated feature of the West Wales Marine SAC.

2) Habitat degradation/pollution

It is possible that the machinery and construction method used for works on site could be a source of oil, fuel and concrete pollution due to both close proximity and direct pollution pathway (tidal) between the works and the SAC. As a result, in line with Conservation Objective 3 for the SAC: "*The condition of supporting habitats and processes, and the availability of prey is maintained",* likely significant effect on the habitats supporting the harbour porpoise cannot be ruled out at this point.

Summary of Likely Significant Effects and Features requiring Appropriate Assessment

Pollution of habitats supporting the harbour porpoise.

Evidence provided in Table 5, 6 and 7 above allows the likely significant effects on European sites to be broken down into threats to specific features of the site identified, in case any features could be screened out of any further assessment.

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 Pen Llyn a'r Sarnau SAC or the West Wales Marine SAC due to potential pollution impacts to the site for the reasons outlined in Table 5. Disturbance to the mobile features of the Cardigan Bay SPA could not be ruled out at screening stage, therefore an appropriate assessment for above named sites are required.

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 to the intertidal mudflats and sandflats habitat associated with the Pen Llyn a'r Sarnau SAC including otter foraging habitat during the construction phase, and potential habitat degradation through pollution, of the West Wales Marine SAC.

These issues are individually subject to further scrutiny through an appropriate assessment (Tables 8 and 9 below), which considers the sites' conservation objectives for the features that have been screened into the assessment (see Tables 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 12. 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.

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 for pollution of marine and supporting habitat

Pen Llyn a'r Sarnau SAC	<u>Features at risk</u> • Mudflats and sandflats not covered by seawater at low tide • Otter *Lutra lutra*
West Wales Marine SAC	• Habitats supporting the qualifying feature, the harbour porpoise

Assessment without mitigation

The Pen Llyn a'r Sarnau SAC supports a number of estuarine and marine habitats and species, and the proposed works will take place 150m east of the SAC. Most of the SAC is marine however extensive intertidal areas are also included. Of the nine habitats for which the site is designated, those in closest proximity to the proposals include 'mudflats and sandflats not covered by seawater at low tide' which is present in proximity to the proposed works.

The Pen Llyn a'r Sarnau SAC is also designated for a number of qualifying species, including its population of otters. Otters are known to be widely distributed in the SAC, and records of otter along the coast from the biodiversity search confirm their presence in the area. Given that otters can have a range of between 20 – 30km, it is highly likely that otters using habitat within the SAC would also be present in the vicinity of the proposed works at Tywyn. There is potential for the works to lead to temporary deterioration in water quality through increase in suspended solids from works next to the water environment, or from pollution through accidental spill from construction machinery and material (concrete). There is therefore the possibility of contamination of otter foraging habitat outside of the protected site, and a reduction in abundance and availability of prey for otters (fish).

The West of Wales Marine SAC supports the harbour porpoise. Given that both SAC's overlap in terms of area, habitats from the Pen Llyn a'r Sarnau SAC are also highly likely to support the harbour porpoise, the only qualifying feature of the West Wales Marine SAC. Conservation Objective 3 for the West Wales Marine SAC is *"The condition of supporting habitats and processes, and the availability of prey is maintained".* The close proximity of the site and the connecting tidal impact pathway does carry a low risk of accidental pollution from the working area, thus posing a potential threat to the prey of the harbour porpoise.

Unmitigated, any pollution release to the environment could potentially undermine conservation objectives of the habitats and otter features of the Pen Llyn a'r Sarnau SAC and the harbour porpoise supporting features within the West Wales Marine SAC. However, due to the small scale and temporary nature of the work, any pollution incident is likely to be relatively small in scale and there would be a high degree of dilution and dispersion within the marine water environment of the estuary, particularly during tidal cycles. With this in mind, any effects are likely to be short-term. The likelihood of significant effects on these habitat and species features through contamination is low, however, without mitigation, residual effects could be considered to remain.

<u>Conclusion</u>

As the works will be taking place 150m east of the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC, there is potential for the plant machinery required for the works to directly affect the habitats of both sites, in particular the intertidal mudflats and sandflats (Pen Llyn a'r Sarnau), as well as the availability of prey associated with the features of the West Wales Marine SAC, through spillage of polluting material or through release of suspended solids. This in turn could affect the supporting habitat and abundance of prey species for qualifying features of both SAC, that potentially use habitat in the vicinity of the proposed works. The proposal also poses the potential for disturbance of mobile features from noise pollution. Without appropriate mitigation measures in place, it is not possible to rule adverse effects on the integrity of these sites.

Assessment with Mitigation

Given that adverse effects have been identified, this assessment must consider if mitigation measures incorporated within the scheme can provide the competent authority with 'certainty' that no reasonable scientific doubt remains as to the absence of an effect upon the integrity of the European site.

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.

The control of pollution and similar incidents forms a frequent component of most large-scale developments. Consequently, a range of tried and trusted techniques can be adopted to reduce the risk of such events to an acceptably low level or remove them entirely even where sensitive European sites are concerned. This provides a high degree of confidence that they will be successful.

This HRA does not make any distinction between embedded elements of the design that may provide ecological benefits that are secondary to their primary purpose and the bespoke measures specifically designed to avoid, cancel or reduce the impact of the development on site features.

Application of mitigation measures:

Mitigation measures are included in full in Table 12 below, but those involved with reducing or avoiding the potential impact from pollution can be summarised as follows:

- A Construction Environment Management Plan (CEMP) is to be prepared which will detail what measures will be in place to protect the surrounding environment. Location of adjacent protected sites shall be clearly highlighted.
- Works to be timed to avoid periods of high tide.
- Integrity of formwork to be inspected prior to pouring/pumping of concrete.
- All concrete use within works to include quick setting cement to reduce risk of washout and ensure all new concrete elements are set prior to incoming tides.
- Biodegradable lubricant and hydraulic oil to be used in plant machinery where 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.
- Pollution spill kits to be readily available on site within plant/machinery at all times, with staff suitably trained in how to deploy.
- Contractor to have emergency incident response procedure in place in the case of a spillage. Response to include accurate procedure to swiftly remove any contaminated sand/material from site in the case of accidental spillage.
- Contractor to adhere to pollution prevention best practice guidelines, including;
  - GGP5: Works and maintenance in or near water.

Conclusion

With the above mitigation measures in place it is considered that the risk from pollution is reduced to the extent that there would be no adverse effect on the integrity of the Pen Llyn a'r Sarnau SAC or its protected features, with no residual effects on any of the conservation objectives of the features of these sites.

Table 9. Impact on Conservation Objectives – Pen Llyn a'r Sarnau SAC	
Conservation Objectives for 'Habitat Features'	**Outcome**

5.2.2 Range 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 **reef** feature these include; • Rocky intertidal reefs • Rocky subtidal reefs • Extensive boulder and cobble reefs – the sarnau • Biogenic reefs (horse mussel *Modiolus modiolus* reef / green crenella *Musculus discors* reef and Honeycomb worm *Sabellaria alveolata* reef • Carbonate reef formed by methane gas leaking from the seabed. For the **intertidal mudflat and sandflat** feature these include: • *Mya arenaria* and polychaetes in muddy gravel • Eel grass *Zostera marina* beds. • Muddy gullies in the Mawddach estuary. For the ***Salicornia*** feature this includes: • Communities characterised by the species *Sarcocornia perennis.* For the **intertidal mudflats and sandflats and sandbanks** features this requires an overall stability or increase in the amount of the feature, taking into account the areas of long-term stability and localised losses and additions arising from environmental processes. For **estuaries** this includes the stability of sandy sediments in proportion to the muddy sediments. <u>Restoration and recovery</u> As part of this objective it should be noted that; for the **estuaries** feature additional land which should form an integral part of the estuarine ecosystem should be restored 5.2.3 Structure and function 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,	No adverse effect on integrity.

- hydrography and meteorology,
- water and sediment chemistry,
- biological interactions.

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.
- 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.

For Atlantic saltmeadows this includes the morphology of the saltmarsh creeks and pans Restoration and recovery

As part of this objective it should be noted that;

- for the estuaries feature the structure and functions of the estuaries that have been damaged/degraded by the constraints of artificial structures such as flood banks, are restored.

5.2.4 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 heath,
- 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 for maintaining it in favourable condition and is secure in the long term. <u>Restoration and recovery</u> As part of this objective it should be noted that; for the **reefs** feature the potential for expansion of the horse mussel *Modiolus modiolus* community off the north Llŷn coast is not inhibited.	
Conservation Objectives for 'Species Features'	**Outcome**
5.2.6 Populations The population is maintaining itself on a long-term basis as a viable component of its natural habitat. • Important elements include: • population size • structure, production • condition of the species within the site. As part of this objective it should be noted that for **bottlenose dolphin** and **grey seal**; • Contaminant burdens derived from human activity are below levels that may cause physiological damage, or immune or reproductive suppression For **grey seal** populations should not be reduced as a consequence of human activity. **5.2.7 Range** The species population within the site is such that the natural range of the population is not being reduced or likely to be reduced for the foreseeable future. As part of this objective it should be noted that for **bottlenose dolphin** and **grey seal**: • Their range within the SAC and adjacent inter-connected areas is not constrained or hindered • There are appropriate and sufficient food resources within the SAC and beyond	**No adverse effect on integrity.**

• The sites and amount of supporting habitat used by these species are accessible and their extent and quality is stable or increasing 5.2.8 Supporting habitats and species The presence, abundance, condition and diversity of habitats and species required to support this species is such that the distribution, abundance and populations dynamics of the species within the site and population beyond the site is stable or increasing. Important considerations include; • distribution • extent • structure • function and quality of habitat • prey availability and quality. As part of this objective, it should be noted that; • The abundance of prey species subject to existing commercial fisheries needs to be 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 species feature is appropriate for maintaining it in favourable condition and is secure in the long term. • Contamination of potential prey species should be below concentrations potentially harmful to their physiological health. • Disturbance by human activity is below levels that suppress reproductive success, physiological health or long-term behaviour For otter there are sufficient sources within the SAC and beyond of high quality freshwater for drinking and bathing. 5.2.8 Restoration and recovery As part of this objective it should be noted that for the bottlenose dolphin and otter, populations should be increasing.	

Table 10. Impact on Conservation Objectives – West Wales Marine SAC	
Conservation Objectives for the (only) designated feature, harbour porpoise	**Outcome**

To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters	
1: Harbour porpoise is a viable component of the site *The intent of this objective is to minimise the risk of injury and killing or other factors that could restrict the survivability and reproductive potential of harbour porpoise using the site.*	No adverse effect on integrity.
2: There is no significant disturbance of the species; and *Disturbance for harbour porpoise typically, but not exclusively, originates from operations that cause underwater noise including, as examples, seismic surveys, pile driving and sonar.*	No adverse effect on integrity.
3: The condition of supporting habitats and processes, and the availability of prey is maintained. *Supporting habitats, in this context, means the characteristics of the seabed and water column.*	No adverse effect on integrity.

Integrity test:	Pollution of marine and supporting habitat: In terms of the effect on 'habitat features', pollution from plant machinery and construction activities was considered to be an adverse effect, but when mitigation measures are taken into account, adverse effects on the Pen Llyn a'r Sarnau SAC are ruled out. In terms of contamination of supporting habitat for the 'Species Features' including otter, grey seal, bottlenose dolphin (Pen Llyn a'r Sarnau SAC) and harbour porpoise (West Wales Marine SAC) pollution from plant machinery and construction activities was considered to have an adverse effect, but when mitigation measures are taken into account, adverse effect on the integrity of these sites can be ruled out. Disturbance of species features Disturbance of features, in particular otters as a result of noise and human activity during the construction phase of the works was considered to be an adverse effect. However, when mitigation measures are taken into account, adverse effects on the designated feature of the Pen Llyn a'r Sarnau SAC are ruled out.
Residual effects / In combination:	As it is considered that the mitigation measures proposed would reduce the risk to such an extent that there would be no residual effects, there is no need to consider this impact in combination with other plans or projects.

Table 12. Mitigation Measures Proposed to Reduce or Avoid Impacts on European Sites

Mitigation Proposed	Impact Reduced/Avoided	European Site Affected	Site Features Affected
• A Construction Environment Management Plan (CEMP) is to be prepared which will detail what measures will be in place to protect the surrounding environment. Location of adjacent protected sites shall be clearly highlighted. • Works to be timed to avoid periods of high tide. • Integrity of formwork to be inspected prior to pouring/pumping of concrete. • All concrete use within works to include quick setting cement to reduce risk of washout and ensure all new concrete elements are set prior to incoming tides. • Biodegradable lubricant and hydraulic oil to be used in plant machinery where 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. • Pollution spill kits to be readily available on site within plant/machinery at all times, with staff suitably trained in how to deploy. • Contractor to have emergency incident response procedure in place in the case of a spillage. Response to include accurate procedure to swiftly remove any contaminated sand/material from site in the case of accidental spillage. • Contractor to adhere to pollution prevention best practice guidelines, including; - GGP5: Works and maintenance in or near water.	Pollution of marine environment and supporting habitat	Pen Llyn a'r Sarnau SAC West Wales Marine SAC	Reefs Large shallow inlets and bays Sandbanks which are slightly covered by seawater all the time Estuaries Coastal lagoons Mudflats and sandflats not covered by seawater at low tide Atlantic salt meadows Salicornia and other annuals colonising mud and sand Submerged or partially submerged sea caves

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 insignifcant 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 scrunity 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 approproate assessment will need to be extended, in order to address in combination effects to inform the intregrity 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.

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:

In terms of potential pollution of the marine environment and supporting habitat for mobile species, leading to degradation of habitat and species features of the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC, it was considered that with mitigation in place, there would be no adverse effect on the integrity of these sites, with no residual effect.

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.

5.0 REFERENCES

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APPENDICES

Appendix A: European sites potentially at risk

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	See Criterion (3) below	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. The Eifionnydd Fens SAC could be considered in this criterion alone due to the presence of wetland features. However, there are no close hydrological links to this site from the proposal along the Tywyn shore. The site is located 14.9km north of the proposal.	See Criterion (3) below
	(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	Pen Llyn a'r Sanrau SAC Northern Cardigan Bay SPA West Wales Marine SAC Morfa Harlech and Morfa Dyffryn SAC	Effects considered are those of a wider, more strategic scale than (2) above. There is some potential for the proposed works to cause adverse pollution impacts on the supporting habitats of the species features of the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC, the boundary of both lies 150m from the shoreline where the works are proposed. The Northern Cardigan Bay SPA habitats, supporting red-throated divers, which lies 82m south of the proposal. Effects can be ruled out for the Northern Cardigan Bay SPA (1.6km west) and Morfa Harlech a Morfa Dyffryn SAC (21km north) given the distance of these sites from the proposed works and the size and nature of the proposed works.	Pen Llyn a'r Sarnau SAC West Wales Marine SAC

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
			Effects on the Pen Llyn a'r Sarnau SAC and West Wales Marine SAC cannot be ruled out and further consideration is required.	
(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	None (or see 3 above)	Effects considered are those of a wider, more strategic scale than (2) above.	None (or see 3 above)
(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	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA West Wales Marine SAC Meirionnydd Oakwoods and Bat Sites SAC	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 the birds and mammals associated with the European sites listed. 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'. 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 the birds, mammals and migratory fish that are associated with the European sites listed. The Northern Cardigan Bay has mobile species features that include red-throated diver (non-breeding). There is some potential for the qualifying bird feature, its only feature, to be affected by the proposed works when they are using	Pen Llyn a'r Sarnau SPA Northern Cardigan Bay SPA West Wales Marine SPA

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
			supporting habitat adjacent to but outside the site itself. These impacts could be through disturbance or noise pollution caused by the plant machinery and site personnel that would be needed on site for the proposed works. There would be a negligible change in this supporting habitat, as no works within the SPA itself will take place. The Pen Llyn a'r Sarnau SAC has mobile features likely to be impacted by the works, including otter (Lutra lutra) and bottlenose dolphin (Tursiops truncatus). Impacts on these species as a result of the works are likely to be from disturbance and noise pollution. While the Meirionnydd Oakwoods and Bat Sites SAC has mobile species features, namely lesser horseshoe bats (Rhinolophus hipposideros) given the distance of these sites from the proposed works, and the small size and nature of the proposed works, the likelihood of significant harmful effects can be ruled out. The West Wales Marine SAC has mobile features that are able to move beyond the boundaries of the site, including the harbour porpise (Phoecoena phoecena) and may be present in the marine environment surrounding the works. Although there are no direct impacts on the West Wales Marine SAC itself, its designated features are at risk of disturbance and noise pollution as a result of the works. Therefore, at this stage the potential for harmful effects on the Pen Llyn a'r Sarnau SAC, Northern Cardigan Bay SPA and West Wales Marine SAC and its features cannot be ruled out and further consideration is required.	

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
(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 works would not comprise any such activities. Therefore, direct effects on European sites from increased development 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
	(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 site/qualifying features and in the absence of established good practice standards, distances(s) to be agreed by the statutory conservation body	None	The project is not a linear development.	None
(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

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
(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 works is considered to change the nature, intensity, area, desity and timing of existing activities such as leisure use of the beach by tourists and locals. However, this would likely be returning to previous levels prior to the disruption of the beach and is not considered to impact vulnerable or sensitive features of protected sites nearby.	None
(11) Projects that could change the quantity, quality, timing, treatment or mitigation of emissions or discharges to air, water or soil harvested, extracted or consumed	Sites considered to have qualifying features potentially vulnerable or sensitive to the changes in emissions or discharges that could arise as a 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	None	The project is not considered to change the quantity, quality, timing, treatment or mitigation of any emissions or discharges to air, water or soil harvested, extracted or consumed.	None
(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 harmful effects on 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	Sites whose qualifying features rely on the physical resources which the project may affect, for example, as habitat or a physical environment on	None	None of the European sites within the area of search are used to provide resources for major infrastructure projects. Furthermore, construction of the proposed maintanence works will not require extraction of materials from European	None

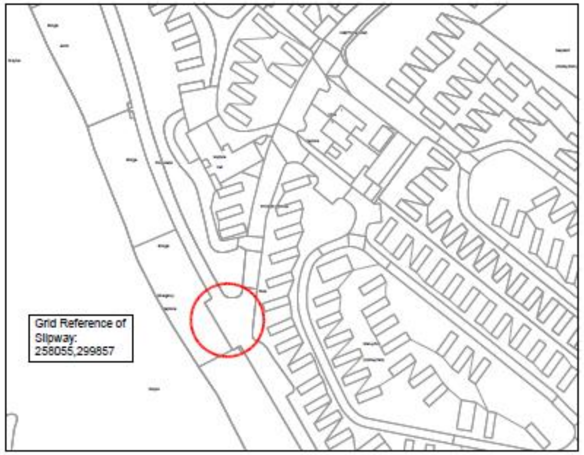
Types of project (or potential effect)	Sites to scan for and check	Initial list of potentially affected sites	Additional context	Final list of European sites potentially at risk
other characteristics of physical resources extracted or consumed	which habitat may develop or which may be disturbed by the extraction or consumption		sites within or beyond the area of search. Therefore, harmful effects on physical resources that might affect qualifying features on all European sites listed can be ruled out of any further consideration.	
(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	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA	This considers direct impacts of the scheme on qualifying species within or outside European sites nearby. The proposed works have potential to increase the degree of disturbance to the mobile qualifying bird species of the Northern Cardigan Bay, and movement of otter through the Pen Llyn a'r Sarnau SAC. Disturbance from noise / movement is considered to be temporary for the duration of the proposed works (4-8weeks). After construction, there would be no increase in disturbance to species.	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA
(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 chages in light or noise that could be brought about by the project	Pen Llyn a'r Sarnau SAC Northern Cardigan Bay SPA	As above, the proposed works are likely to create a temporary increase in noise levels during the course of the works, potentially impacting on the qualifying bird features of the Northern Cardigan Bay, and nocturnal species such as otter, as a feature of the Pen Llyn a'r Sarnau SAC. If works are completed in the day only, and access/ egress maintained through the shore, then impacts to otter are limited. Therefore, effects of noise pollution on the bird species features of these sites cannot be ruled out and further consideration is required.	Northern Cardigan Bay SPA
(16) Projects which could introduce or increase a potential cause of mortality of species	Sites whose qualifying features are considered to be potentially sensitive to the source of new or increased mortality that could be brought about by the project	None	The project is not considered to introduce or increase a potential cause of mortality of species either during or post-construction. Therefore, harmful effects can be ruled out and further consideration is not required.	None

Appendix B: Location of proposed works (red circle) in relation to protected sit

Appendix C: Proposed GA drawings

CLEIENT/CLIENT :

Location Plan
Scale 1:12 500



Location Plan
Scale 1:1 000

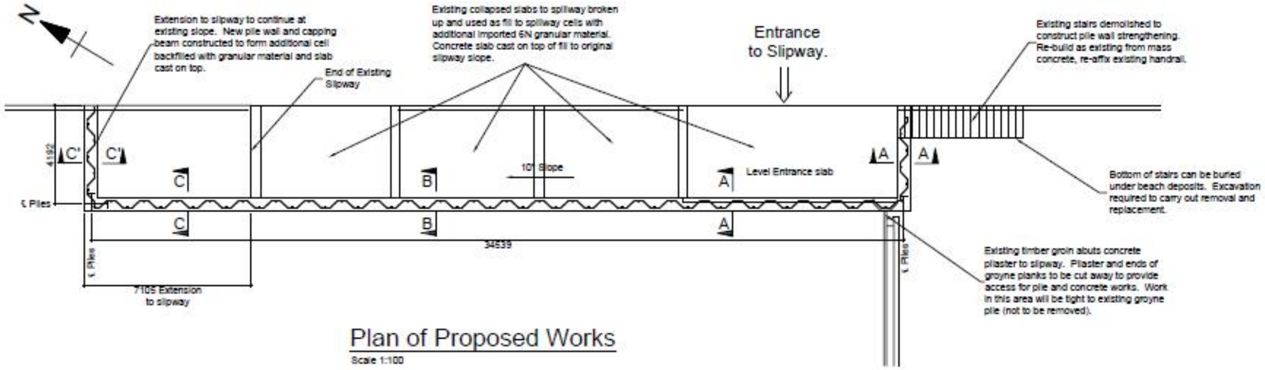
Groyne & Pilaster, SW Corner
Photo Taken December 2024

NODIADAU/NOTES

1. All dimensions are in millimeters and levels in meters unless noted otherwise.
2. Foundations of the existing slipway structure are unknown. No settlement of the walls of the structure has occurred since constructed even though granular fill beneath the slabs forming the slipway has been washed out and the slabs collapsed.
3. Piles shall be installed to the lengths shown by driving, or by excavation to depth and placement. If an excavation method is used, the contractor shall take appropriate precautions to ensure the excavation does not undermine the existing slipway structure. Excavated material shall be fully replaced and compacted around the piles to the same strata from where it was excavated.
4. All concrete shall have a compressive strength of $50N/mm^2$ (Cube crushing strength).
5. Piles shall be AZ-12-700 or a similar pile with a nominal depth of 300mm and Plastic Section Modulus of $1415cm^3/m$. Pile steel strength shall be S 355 GP.

Slipway - Low Beach Level
Photo Taken June 2024

Slipway - High Beach Level
Photo Taken December 2024



Plan of Proposed Works
Scale 1:100

Stairs to South of slipway
Photo Taken December 2024

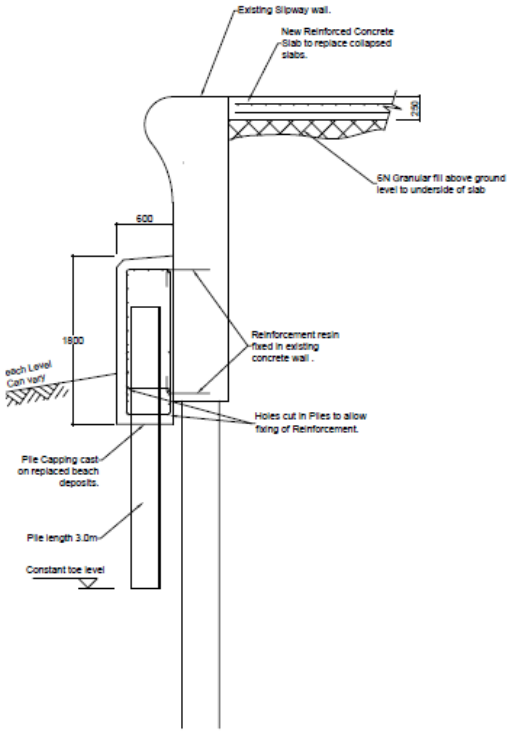
YGC

CYNLLUN / SCHEME :
Neptune Road Slipway Refurbishment
Tywyn

TEITL LLUNIAD / DRAWING TITLE :
Location Plan and General Arrangement

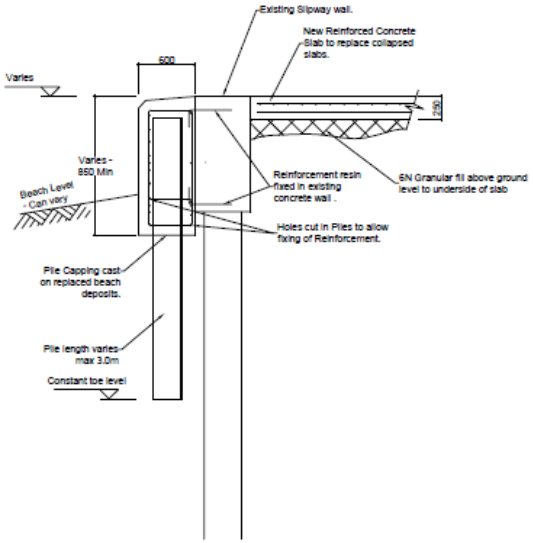
DARLUNIWYD GAN : DRAWN BY :	JJC	DYDDIAD DARLUNIWYD : DATE DRAWN :	20/12/24
GWIRIWYD GAN : CHECKED BY :	JJC	DYDDIAD GWIRIWYD : DATE CHECKED :	20/12/24
Taflen Sheet	1 of 1	GRADDFEYDD : SCALE :	As shown at A1

Rhif Lluniad
Drawing No. 12531-DE010/GA/01



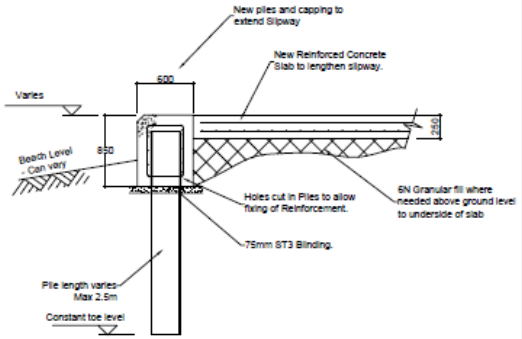
Section A-A

Scale 1:25



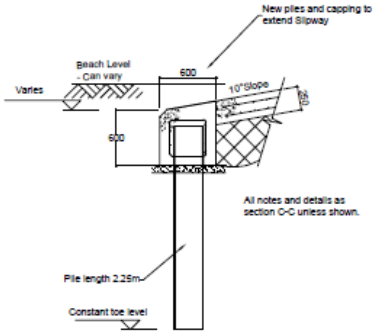
Section B-B

Scale 1:25



Section C-C

Scale 1:25



Section C'-C'

Scale 1:25

CLIENT/CLIENT :

CYNGOR GWYNEDD

NODIADAU/NOTES

1. All dimensions are in millimeters and levels in meters unless noted otherwise.

RHIF NO.	NEWIDIADAU/MODIFICATIONS	GAN/BY	DYDDIAD/DATE

YGC

CYNLLUN / SCHEME :

Neptune Road Slipway Refurbishment
Tywyn

TEITL LLUNIAD / DRAWING TITLE :

Proposed General Arrangement Details

DARLUNIWYD GAN : DRAWN BY :	JJC	DYDDIAD DARLUNIWYD : DATE DRAWN :	20/12/2024
GWIRIWYD GAN : CHECKED BY :	JJC	DYDDIAD GWIRIWYD : DATE CHECKED :	04/12/2023
Tudalen / Sheet	1 of 1	GRADDFEYDD : SCALE :	As shown at A1

Rhif Lluniad
Drawing No. 12531-DE010/GA/02

FFURF/KEY -

Appendix D: Site photos

Figure 1: Tywyn Neptune Road slipway damage

Figure 2: Slipway retaining wall erosion damage.

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