

Uskmouth AW2 Battery Energy Storage System

784-B070326

Report to Inform an Appropriate Assessment - Habitats Regulations Assessment Stage 1 Screening for Likely Significant Effect and Stage 2 Appropriate Assessment

Stroma Tidal Power Ltd.

29 July 2025

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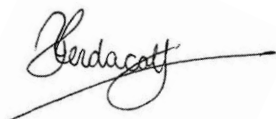
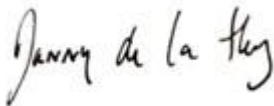
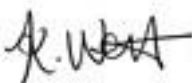
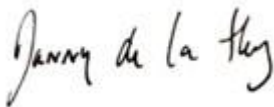


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EXECUTIVE SUMMARY

Site Location	The Proposed Development site is located at Uskmouth Power Station, adjacent to the River Usk in Nash, Newport, South Wales. The proposed Battery Energy Storage System (BESS) facility will be installed on land associated with the former Uskmouth A Power Station, referred to as 'AW2'. The extent of the site is shown on the submitted Site Location Plan (Figure 1). The Proposed Development site is centred at National Grid Reference ST 32722 83753.
Proposals	The Proposed Development seeks full planning permission for the removal of stored PFA from the site and the installation of a battery energy storage system (BESS) with associated infrastructure. It includes the raising of land levels to create an elevated engineered platform designed to support the new infrastructure and mitigate flood risk.
Scope of this Report	A stage 1 screening assessment and appropriate assessment report to support the planning application.
Stage 1: Screening Results	The Proposed Development has five viable and probable impact pathways for which LSE cannot be excluded: 1. Disturbance to qualifying species of Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC from increased noise and Vibration; 2. Disturbance to qualifying species of Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC from increased visual cues; 3. Decrease of water quality from increased surface water run-off during construction and operation, affecting the Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC and functionally linked land within the Proposed Development site. 4. Deposition of air pollution via fugitive dust leading to LSE of functionally linked land which supports the structure and function of qualifying species Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC; and

	5. Introduction and spread of INNS to the functionally linked land which supports the structure and function of qualifying species Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC. All other impacts, such as foul water and air pollution from increased traffic have been screened out.
Stage 2: Appropriate Assessment	Mitigation to cancel: • Increased disturbance from noise/ vibration; • Visual stimuli, • Fugitive dust; • Decrease of water quality from construction and operational water management ; including provision to retain, treat and convey water used in firefighting; • Invasive non-native species. The AA has been undertaken alone, and concluding that the mitigation is sufficient to cancel any adverse effect alone, there will be no residual effect and no requirement for an assessment in-combination
Conclusion	Provided the detail of the above mitigation measures is submitted to NCC prior to construction, then NCC can be confident no adverse effect to Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC will occur. The details in the CEMP must be adhered to and include role and responsibilities of suitable trained site operators.

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech Limited (Tetra Tech) was commissioned by Stroma Tidal Power Ltd. to prepare a Report to Inform an Appropriate Assessment (RIAA, also commonly referred to as an ‘Habitats Regulation Assessment or ‘HRA’) to support a planning application for the construction of a Battery Energy Storage System (BESS) at Uskmouth Power Station. Hereafter this is referred to as the “Proposed Development”.

This report is required to establish the potential for the Proposed Development to affect the qualifying features of any internationally designated site for wildlife either alone or in combination with other plans or projects. Newport City council is the competent authority for processing the planning application, which will involve an assessment for the development under regulation 63 of The Conservation of Habitats and Species Regulations 2017, hereafter referred to as the Habitats Regulations. This report is prepared to assist the competent authority in undertaking their duties.

This report has been prepared by Senior HRA Specialist Ashley Endacott BSc (Hons). It has been reviewed by Associate Ecologist Kay Went BSc MCIEEM and verified by Associate Ecologist Danny de la Hey BSC. The conditions pertinent to it are provided in Appendix A.

1.2 SITE DESCRIPTION

The Proposed Development site is located at Uskmouth Power Station, adjacent to the River Usk in Nash, Newport, South Wales. The proposed Battery Energy Storage System (BESS) facility will be installed on land associated with the former Uskmouth A Power Station, referred to as ‘AW2’. The extent of the site is shown on the submitted Site Location Plan (Figure 1).

To the immediate north is the Severn Power Combined Cycle Gas Turbine (CCGT) Power Station, which was constructed in 2007 on the site of the former Uskmouth A Power Station and west of this is the Uskmouth National Grid Substation. To the southeast is the former coal stockpile area, where a new BESS development is currently under construction (under planning permission ref: 23/0835). Beyond this lies the RSPB Wetlands National Nature Reserve.

The Proposed Development is accessed via existing roads from the CCGT Power Station entrance from West Nash Road, leading to Nash Road and Meadows Road towards Newport.

The Proposed Development is approximately 4 hectares (ha) of land currently used for the storage of pulverised fuel ash (PFA). The PFA storage area comprises a concrete slab beneath the PFA stockpiles bound by 2.4 metre (m) high reinforced concrete walls. The application site boundary also includes part of the internal access road through the Uskmouth site, rough grassland, disused railway tracks, and a balancing pond to the west. The majority of the Proposed Development is located within Flood Zone 3 for sea flooding whilst some areas are in Flood Zone 2. The southern part of the site falls within a Defended Zone, benefitting from coastal flood defences (Carney Sweeney, 2025). Levels on the Proposed Development are relatively flat with the exception of the PFA storage area in the centre of the site and pond to the west. Levels surrounding the PFA storage area generally sit between 8.14 m above ordnance datum (AOD/0 and 9 m AOD with slightly higher levels in the east. Raised levels in the centre of the PFA storage site sit between 12 m AOD and 15 m AOD.

The Proposed Development site is centred at National Grid Reference ST 32722 83753.

1.3 DEVELOPMENT PROPOSALS

The Proposed Development seeks full planning permission for the removal of stored PFA from the site and the installation of a battery energy storage system (BESS) with associated infrastructure. It includes the raising of land levels to create an elevated engineered platform designed to support the new infrastructure and mitigate flood risk.

BESS are facilities that store energy generated from renewable sources, such as solar and wind, during periods of low demand. This stored energy can then be released back into the grid when it is most needed, such as during times of peak demand.

BESS facilitate grid stability as energy storage can allow significant increase in intermittent renewable generation from wind and solar onto the electricity system by enhancing the balance of supply and demand. This location has the advantage of being in close proximity to the electrical grid and features an existing substation on-site.

The proposed development would comprise the following elements:

- Site clearance including the removal of circa 140,000 tonnes of PFA currently stored on site.
- Raising the ground level for the electrical infrastructure above predicted flood levels.
- Laying out of containerised battery storage units along with associated inverters mounted on concrete slabs / piers.

Each containerised battery unit will measure approximately 6.1 m by 2.44 m and 2.9 m high.

Installation of:

- A HV substation with associated electrical infrastructure. The substation compound will measure approximately 45 m by 102 m with a maximum height of 12 m;
- 2.5 m high palisade fence around the BESS facility with access gates to the compound entrance from the internal road network;
- 2 x O & M buildings each measuring approximately 19.4 m by 8.9 m and 4.4 m high. One of the buildings will contain the control room and the other will contain the switchgear.
- PCS & MV skid container measuring approximately 12.2 m by 2.4 m and 2.9 m high;
- Underground cabling to connect the battery storage facility to the proposed on-site substation which comprises the plant and equipment necessary to export the electricity stored on-site to the electricity network;
- Laying out of a hard surfaced site access into the BESS substation and battery compound from the internal road network along with car parking bays;
- Layout out of uncompacted gravel as a surface cover between the containerised units and equipment;
- Temporary construction laydown area;
- A short underground cable route to connect the BESS to the existing National Grid 275 kilovolt (kV) substation located circa 900 m to the north west via an existing access track; and
- Landscape planting, biodiversity enhancements and surface water attenuation measures;

PFA removal

The PFA is proposed to be removed from the site via the road network over a 15-month period. This will be undertaken during normal working hours (indicatively, 07:00 to 19:00 Monday to Friday; and 07:00 to 13:00 on Saturdays and at no time on Sundays or bank holidays). This process will result in approximately 30 HGVs movements i.e. 15 arriving and 15 departing the site per day. The site will then be cleared to make way for the BESS facility.

Construction

The construction period is anticipated to take approximately 24 months and will be undertaken during the normal working hours (as the PFA removal above). The BESS infrastructure is proposed to be delivered to the site via the road network, which will be detailed within a construction programme.

Site Layout

The proposed site layout comprises two main elements: the battery compound in the central and eastern part of the site; and the substation and operational buildings in the western part of the site.

It is proposed that circa 2.1 ha of the site will be occupied by the BESS compound and associated electrical infrastructure, whilst the remaining area will be utilised for landscaping, access, drainage and the underground cable route.

The ground levels on site are proposed to be raised and levelled to achieve a ground level of 9.75 m AOD. This will ensure all site and electrical infrastructure is raised above the relevant flood level.

The existing balancing pond in the western part of the site will be retained and incorporated into the sustainable drainage scheme for the site, whilst also providing opportunities for landscaping and ecological enhancements.

Landscaping proposals include enhanced planting, grassland verges along the site boundary and a grassed swale to the southern site boundary. There are a number of existing trees on site, which will be retained.

Parking and Access

Two access points into the site are proposed, one at the eastern boundary and one at the western boundary, with an internal access track to be created within the site. The access points are served from the existing access road within the Uskmouth site, which travels to the south and west of the application site. This route will serve vehicular access to and from the new development via West Nash Road to the east.

No car parking spaces are proposed, as these will not be required. Visitors to the site only occurs occasionally for inspection and maintenance purposes.

Operational Lifetime of Development

The proposed development will be operational for a period of 40 years, after which time the BESS facility will be decommissioned and associated apparatus fully removed from the site

Drainage Description

Burroughs (2025) Drainage Strategy Report details the surface water the surface water drainage strategy in Section 3.0 and 3.2 of the Drainage Strategy Report and the existing surface water drainage is detailed in Section 2.3.5 (p5) as:

Existing Surface Water Drainage:

“As mentioned previously in Section 2.3.1 [of Drainage Strategy Report], there is currently a flat concrete slab beneath the PFA stockpiles that fall gradually towards the south of the AW2 site where the existing concrete conduit channels are situated. The concrete conduit channels direct the surface water runoff towards a primary settlement tank, roughly 6.95 m in width and 30 m in length according to the ‘Primary Settlement Tank Layout & Sections’ drawing received from Mott Macdonald (Ref: 227223/CAR/AH/591). The runoff is then conveyed via a connection pipe beneath the carriageway to the final settlement tank that comprises of a Lamella Plate Clarifier to remove suspended solids in the runoff. The final settlement tank is roughly 1.8 m in width and 6.4 m in length in accordance with the ‘Final Settlement Tank Details’ drawing received from Mott Macdonald (Ref: 227223/CAR/AH/575).

The runoff then flows into an oil interceptor to separate potential oil and fuel in the runoff before discharging into the existing detention basin west of the site, and eventually outfall into an existing ditch via discharge point W1b at the southwest corner of the basin.

Burroughs have conducted a site visit and concluded that the existing detention basin only collects the runoff from the existing PFA storage yard, and no additional connections or outfalls have been identified. According to the Discharge Consent by NRW [Natural Resources Wales] (Ref: 20151223_SUP_LP3131SW_Var002 signed), no maximum discharge flow for discharge point W1b is specified.

Precautionary approach should be taken by adopting the GRR as the discharge flow in the absence of specific discharge flow, or a consultation with NRW might be required to clarify the allowable discharge limits at discharge point W1b. Although Ecology surveys have not yet been undertaken, it is estimated that the detention basin is likely to be rich in biodiversity due to dense vegetation.”

Existing Foul Water Drainage:

“No existing foul water drainage has been identified within the AW2 site and there is currently no demand for foul drainage to be considered in the course of the proposed site development”

The proposed surface water strategy is detailed in Section 3.1.4, pp9-10 of Burroughs (2025).

SuDS (Sustainable Drainage systems) Attenuation and Flow Control Design

“In accordance with the SuDS Manual (CIRIA, 2015), attenuation features shall be designed to ensure that no flooding of the attenuation feature occurs during the 1 in 30-year return period storm event plus climate change. This shall include the design of a suitable freeboard. In addition, a simulation of the 1 in 100-year + 40% C/C event and beyond shall be undertaken to examine potential impacts upon attenuation features. This is to establish whether any additional measures are required to mitigate detrimental effects or significant downstream flooding. In addition, there is a requirement to manage flows from any proposed attenuation features by ensuring the following;

- *Safe overflows and exceedance conveyance routes from surface water storage locations are provided;*
- *Outgoing discharge rate remains within the specified allowable discharge rate to manage flood risk downstream of the site.*

Design and sizing of flow control devices shall be determined using both the manufacturers’ guidance and InfoDrainage hydraulic analysis. Flow control devices shall be designed to ensure that peak discharge rates are controlled and limited to the maximum agreed predevelopment flow rate(s). This is to ensure that there shall be no detriment to the existing downstream drainage ditches / watercourses. All flow control devices are to be installed within suitable chambers (or affixed to headwalls) to ensure suitable access arrangements for routine inspection and maintenance. Flow control devices shall also be designed to mitigate blockage risk, limited to a minimum outflow of 2 l/s/ha (Statutory Standards for SuDS Guidance, 2018) and a minimum orifice diameter of 50mm. The isolation penstock chambers situated in the granular ‘yards’ are particularly important for the surface water drainage design. In the unlikely event of a fire, the penstock chambers can be closed and the runoff containing fire suppression chemicals / foam can be compartmentalised and isolate from the rest of the site. This approach will need to be agreed with NCC SAB Authority to further improve the water quality benefits associated with this design”.

And Section 3.2 pp 11 -13:

“Proposed SuDS Design Strategy

The following SuDS features are currently proposed across the Scheme to intercept, treat, attenuate, and discharge surface water runoff:

- *Porous paving (in the form of compacted gravel) with minimum voids of 30% throughout the battery ‘yards’ housing the containerised batteries and associated transformers, substations and inverters;*
- *Dry swale within existing perimeter concrete conduit channel. Dry swale to have cellular attenuation crates and finished with permeable geotextile and topsoil.*
- *Detention basin used to provide additional storage. Extensive vegetation and habitats around basin perimeter.*

Flow control chamber to be installed on outlet from detention basin. It is proposed that surface water from the Scheme will largely be managed by porous granular stone ‘yards’ across the containerised battery unit bays. The granular stone yards will be impermeably lined at both the base and side, which will be used to convey surface water runoff to the proposed perimeter swale and cellular storage tank in the existing perimeter concrete conduit channel along the southern boundary of site. In addition to providing sufficient attenuation and infiltration, the perimeter dry swale also provides opportunity for incorporating landscaping/planting, enhancing both amenity and biodiversity benefits. The surface water will be discharged from the perimeter dry swale and be directed to the existing detention basin. Peak discharge rates from the basin will be limited to 9.38 l/s, which corresponds to the GRR Qbar. Please refer to Appendix A5 for the Proposed Surface Water Drainage Drawing.

Discharge to a surface water body – It is proposed that all surface water from the AW2 site will discharge to the proposed existing perimeter swale along the southern boundary of the site. Surface water exits the perimeter swale and is ultimately discharged into the existing detention basin. The runoff will then be discharged into the existing ditch via a retained existing outfall, which is named as discharge point W1b on NRW’s Discharge Consent (Ref: 20151223_SUP_LP3131SW_Var002 signed)”.

1.4 REQUIREMENT FOR HRA

A HRA is an assessment of the potential impacts of a proposed project or plan on the conservation objectives of any European site (often also referred to as Habitats site or Natura 2000 site) and, where necessary, an assessment of the development mitigation and / or avoidance measures to preclude negative effects. A European site is defined within the Habitats Regulations (Regulation 8(1)) as:

- (a) a special area of conservation;*
- (b) a site of Community importance which has been placed on the list referred to in the third subparagraph of Article 4(2) of the Habitats Directive (list of sites of Community importance);*
- (d) an area classified pursuant to Article 4(1) or (2) of the old Wild Birds Directive or the new Wild Birds Directive (classification of special protection areas); or*

- (e) *a site which has been proposed to the European Commission under regulation 12, until such time as—*
- (i) *the site is placed on the list of sites of Community importance referred to in the third subparagraph of Article 4(2) of the Habitats Directive; or*
 - (ii) *agreement is reached or a decision is taken pursuant to Article 4(2) of that Directive not to place the site on that list*

Additional areas are afforded protection as if they were European sites. Under Planning Policy Wales and associated legislation, the following should be given the same protection as Habitats sites:

- a) *potential Special Protection Areas (SPAs) and possible Special Areas of Conservation (SACs);*
- b) *listed or proposed Ramsar sites; and*
- c) *sites identified, or required, as compensatory measures for adverse effects on Habitats sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.*

This aligns with the approach set out in the Environment (Wales) Act 2016, the Conservation of Habitats and Species Regulations 2017 (as amended), and relevant guidance supporting PPW. In line with Planning Policy Wales (Welsh Government, 2023) and supporting guidance, particularly Technical Advice Note (TAN) 5: Nature Conservation and Planning, the term ‘Habitats sites’ is used within this report to describe internationally designated sites, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), collectively known as the Natura 2000 network. These sites are afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended) and must be considered in accordance with the requirements of a Habitats Regulations Assessment (HRA). The assessment must consider the direct, indirect, and in-combination effects of the plan or project, alongside other current or proposed developments or policies. This includes potential impacts arising from activities outside the designated site boundaries, where those activities could affect the ecological integrity of the site (e.g., through loss or degradation of functional habitat used by qualifying species).

The requirement for a HRA arises in consequence of the transposition of the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, hereby referred to as the ‘Habitats Directive’, in Articles 6(3) and 6(4) (The Council Of The European Communities, 1992).

The Habitats Directive was transposed into national legislation by the Conservation of Habitats and Species Regulations 2017 (as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019). These are hereafter referred to as the ‘Habitats Regulations’.

Under regulation 63 of the Habitats Regulations, any plan or project which is likely to have a significant effect on a Habitats site (either alone or in-combination with other projects) and is not directly connected with, or necessary for the management of the Habitats site, must be subject to an HRA to determine the implications for the plan or project in view of its conservation objectives.

1.5 HRA GUIDANCE

The HRA process undertaken by Tetra Tech has been developed in accordance with the following guidance:

- Tyldesley, D., and Chapman C., (2025) The Habitats Regulations Assessment Handbook, edition UK: DTA Publications Limited (accessed online, by subscription only).
- HRA judgement (Holohan and Others v An Bord Pleanála, 2018) has also been considered within this assessment. In summary this judgement provides further clarification about the scope of an Appropriate Assessment (AA), requiring that the assessment must:
 - Catalogue the entirety of habitat types and species for which a site is protected;
 - Identify and examine the implications of the project for species present on the SPAs / SACs / Ramsar sites for which the site has not been listed provided that those implications are liable to affect the Conservation Objectives of the site (i.e. if they are necessary to the conservation of the habitat types and species listed for the protected area); and
 - Consider the implications for habitat types and species to be found outside the SPA / SAC / Ramsar sites provided that those implications are liable to affect the Conservation Objectives of the SPA / SAC / Ramsar (i.e. if they are necessary to the conservation of the habitat types and species listed for the protected area).

In essence this is how a thorough HRA is carried out, as there may be other features supporting the Conservation Objectives of the site which are not actually listed as qualifying features, both within the designated area and outside this.

1.6 INFORMATION / DOCUMENTS USED IN THIS ASSESSMENT

- Severn Estuary / Môr Hafren European Marine Site (EMS) Conservation Advice Package (Natural England and Countryside Council for Wales, 2009)
- Uskmouth AW2 Preliminary Ecological Appraisal (PEA) (Tetra Tech, 2024).

2.0 HRA METHODOLOGY

The HRA process involves the following tasks split according to the guidance stages, the current report is concerned with Stage 1 – Likely Significant Effect (LSE) Screening and Stage 2 – Appropriate Assessment (AA). Table 1 provides a summary of each stage of the HRA process.

Table 1. HRA Stages

Stage	Details
Stage 1 Assessment of Likely Significant Effects / Screening Assessment	This is often called an ‘Assessment of Likely Significant Effects (LSE)’ or ‘Screening Assessment’, and is essentially a risk assessment, typically utilising existing data, records and specialist knowledge. The purpose of the test is to decide whether ‘full’ AA is required. The essential question is: <i>“Is the project, either alone or in-combination with other relevant projects and plans, likely to result in a significant effect upon Habitats sites?”</i> A likely significant effect is any significant effect which would undermine the conservation objectives for Habitats sites. As a result of European case law, in Waddenzee¹, states that <i>“41Therefore, the triggering of the environmental protection mechanism provided for in Article 6(3) of the Habitats Directive does not presume – as is, moreover, clear from the guidelines for interpreting that article drawn up by the Commission, entitled ‘Managing Natura 2000 Sites: The provisions of Article 6 of the “Habitats” Directive (92/43/EEC)’ – that the plan or project considered definitely has significant effects on the site concerned but follows from the mere probability that such an effect attaches to that plan or project”.</i> Therefore, irrespective of the normal English meaning of ‘likely’, in this statutory context ‘a likely significant effect’ is ‘a possible significant effect.’ If it can be demonstrated that significant effects will not occur, in lieu of mitigation, no further assessment is required. If the project implications for the site in view of the site’s conservation objectives, on the basis of objective information, will have a significant effect on that site, either individually or in combination with other plans or projects cannot be demonstrated further assessment must be undertaken at Stage 2.

¹ Case C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij. Reference for a preliminary ruling: Raad van State - Netherlands.

Stage 2 Appropriate Assessment	If it cannot be satisfactorily demonstrated that significant effects can be ruled out in view of the site's conservation objectives, an Appropriate Assessment (AA) must be undertaken. This stage is focussed entirely upon the designated qualifying features of the Habitats sites in question. The essential question here is: <i>“Will the project, either alone or in-combination with other relevant projects and plans, actually result in an adverse effect upon the integrity of any Habitats sites?”</i> If it is concluded that adverse effects will occur, mitigation measures will be required to either avoid the impact in the first place, or to reduce the ecological effect to such an extent that it is no longer significant. Note that, unlike standard Ecological Impact Assessment, compensation for adverse effects (i.e. creation of alternative habitat) is not permitted to be considered at the AA stage.
Stage 3 Alternatives	Stage 3 involves the examination of alternative ways of achieving the objectives and avoiding adverse impacts on the integrity of the Habitats sites.
Stage 4 IROPI and Compensation	Stage 4 is an assessment of Imperative Reasons of Overriding Public Interest (IROPI). A plan or project may proceed for reasons of IROPI if compensatory measures are secured.

The Stage 1 Screening Assessment comprises four steps, as described below:

- Step 1. Determining whether the project or plan is directly connected with or necessary to the management of the Habitats site(s);
- Step 2. Describing the project or plan and the description and characterisation of other projects or plans that in-combination have the potential for having significant effects on the Habitats site(s);
- Step 3. Identifying the potential effects on the Habitats site(s); and
- Step 4. Assessing the significance of any effects on the Habitats site(s).

At HRA Stage 2 an AA should identify the effects of those plans or projects on qualifying features of the Habitats sites in relation to the Conservation Objectives of the Habitats sites and determine whether these effects will result in an adverse effect on the integrity of the site. Only where the Competent Authority is satisfied that there will be no adverse effect on integrity, or where there are reasons of imperative overriding public interest (Stage 4), may consent be granted.

Under Regulation 63 of the Habitats Regulations, an AA needs to be carried out in respect of any plan or project which:

- (i) either alone or in-combination with other plans or projects would be likely to have a significant effect on a Habitats site; and
- (ii) is not directly connected with the management of the site for nature conservation.

3.0 SCOPE OF ASSESSMENT

3.1 IDENTIFICATION OF HABITAT SITES WITH POTENTIAL TO BE AFFECTED BY THE PROJECT

Projects may have spatial implications which can have further reaching effects than those predicted to fall within the development footprint. Specifically, it is recognised that distance between plan / project and a Habitats site is not a definitive determinant as to the likelihood or severity of an impact occurring. Site variables such as prevailing wind conditions, and surface and groundwater flow direction will all have an influence on the relative distance at which an impact can occur.

Additionally, the mobile nature of qualifying interest species must also be considered, since an adverse effect on the qualifying species of a Habitats site, even if they are present outside the Habitats site for which they are qualifying, may still result in a significant adverse effect on a Habitats site. Hence, a plan or project some distance away from a Habitats site could still have effects on the site and therefore, needs to be considered as part of the screening process.

This also means that both species and habitats which are present within the Habitats site's boundary or outside of the Habitats site should be considered even if they are not qualifying features, if they are supporting features that might affect the conservation objectives of the Habitats site if lost or damaged. This RIAA has considered qualifying features as well as other habitats, flora and fauna that might be important in achieving the conservation objectives of the Habitats site and maintaining site integrity.

3.2 DETERMINING THE ZONE OF INFLUENCE

Site selection was dependent upon the likelihood of the project resulting in an impact pathway(s) causing LSE to Habitats sites. A 10 km zone of influence (Zoi) search radius from the Proposed Development was used to identify any Habitats sites that could be adversely affected by the works (See Figure 2). This is considered to be sufficient to capture all Habitats sites which may be impacted by the Proposed Development.

Bats

The PEA has recorded a tunnel, to the east of the Proposed Development site, serves as a day and hibernation roost for a sole lesser horseshoe bat *Rhinolophus hipposideros*. Additionally, surveys undertaken for the chimney stack within the wider power station site identified a common pipistrelle bat

Pipistrellus pipistrellus day roost within the chimney stack itself and a noctule bat *Nyctalus noctula* breeding roost was found in a tree during 2024 surveys (Tetra Tech, 2024c). Bat activity surveys undertaken of the wider power station site in 2024 had recordings of common pipistrelle, soprano pipistrelle *P. pygmaeus*, Nathusius' pipistrelle *P. nathusii*, noctule, Leisler's *N. leisleri*, serotine *Eptesicus serotinus*, brown long-eared *Plecotus auritus* and *Myotis* species. The associated PEA and bat reports for this site concluded that bats are likely to use the site for roosting, commuting and foraging.

A subsequent review of MAGIC Maps² did not identify any Habitats sites within 15 km where bats are a qualifying feature. The nearest Habitats site where bats are a qualifying feature is the Wye Valley and Forest of Dean Bat Sites SAC. The qualifying species of the Wye Valley and Forest of Dean Bat Sites SAC are lesser horseshoe and greater horseshoe *Rhinolophus ferrumequinum* bats. The nearest component of this Habitats site is 18.9 km northeast of the Proposed Development site at Mynydd Bach (Natural Resources Wales, 2008). The supplementary advice on the site's conservation objectives (Natural England, 2019) indicates that lesser horseshoe bats can forage up to 4 km from their roosts during summer, which reduces to 1.2 km during winter. For greater horseshoe bats, they may forage up to 10 km from the roost.

Due to the distance of the Proposed Development beyond the foraging range of the qualifying features of the Wye Valley and Forest of Dean Bat Sites SAC, this is considered sufficient to exclude bats from consideration within this RIAA. Although any disturbance to roosts would require a licence from NRW.

Nutrients

Similarly, there are no Habitats sites within a nutrient neutrality catchment or nitrate vulnerable zone that would require the ZOI to be increased beyond 10 km from the Proposed Development.

Table 2 below lists the Habitats sites identified that could be affected by the Proposed Development and details each sites' qualifying and supporting features, any threats to their integrity as identified in the JNCC Standard Data Form and their high-level conservation objectives.

²<https://magic.defra.gov.uk/home.htm>

Table 2. Site Selection

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
Severn Estuary / Môr Hafren EMS consisting of: UK0013030 Severn Estuary/ Môr Hafren SAC UK9015022 Severn Estuary SPA	230 m	Severn Estuary / Môr Hafren SAC - Sandbanks which are slightly covered by sea water all the time; - Estuaries; - Mudflats and sandflats not covered by seawater at low tide; - Reefs; - Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>); - Sea lamprey <i>Petromyzon marinus</i>; - River lamprey <i>Lampetra fluviatilis</i>; and - Twaite shad <i>Alosa fallax</i>. Source: (Natural England and Countryside Council for Wales, 2009)	- Human induced changes in hydraulic conditions; - Changes in abiotic conditions; - Modification of cultivation practices; - Other urbanisation, industrial and similar activities; and - Outdoor sports and leisure activities, recreational activities; Source: (JNCC, 2015a)	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; - The extent and distribution of qualifying natural habitats and habitats of qualifying species; - The structure and function (including typical species) of qualifying natural habitats; - The structure and function of the habitats of qualifying species; - The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
UK11081 Severn Estuary Ramsar				- The populations of qualifying species; and - The distribution of qualifying species within the site. Source: (Natural England and Countryside Council for Wales, 2009)
		Severn Estuary SPA - Bewick's swan <i>Cygnus columbianus bewickii</i>; - Dunlin <i>Calidris alpina alpina</i>. - Gadwall <i>Mareca strepera</i>. - Greater white-fronted goose <i>Anser albifrons albifrons</i>. - Redshank <i>Tringa tetanus</i>. - Shelduck <i>Tadorna tadorna</i>. - Waterbird assemblage. Source: (Natural England and Countryside Council for Wales, 2009)		Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; - The extent and distribution of the habitats of the qualifying features. - The structure and function of the habitats of the qualifying features. - The supporting processes on which the habitats of the qualifying features rely.

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
				- The population of each of the qualifying features. - The distribution of the qualifying features within the site. Source: (Natural England and Countryside Council for Wales, 2009)
		Severn Estuary Ramsar - Estuaries - Salmon <i>Salmo salar</i> - Sea trout <i>S. trutta</i> - Sea lamprey - River lamprey - Allis shad <i>Alosa alosa</i> - Twaite shad - European eel <i>Anguilla Anguilla</i> - Bewick's swan - Greater white-fronted goose - Dunlin - Redshank		For Ramsar sites, a decision has been made by not to produce Conservation Advice packages, instead focussing on the production of High-Level Conservation Objectives. As the provisions on the Habitats Regulations relating to Habitat Regulations Assessments (HRAs) extend to Ramsar sites, it is considered the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests.

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
		• Shelduck • Gadwall • Ringed plover <i>Charadrius hiaticula</i> • Whimbrel <i>Numenius phaeopus</i>		
UK0013007 River Usk / Afon Wysg SAC	230 m (Figure 3)	• Sea lamprey • Brook lamprey <i>Lampetra planeri</i> • River lamprey • Twaite shad • Allis shad • Atlantic salmon • Bullhead <i>Cottus gobio</i> • European otter <i>Lutra lutra</i> • Watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation Source: (Natural Resources Wales, 2022)	• Invasive non-native species • Grazing • Forestry activities • Pollution to surface waters (limnic & terrestrial, marine & brackish) • Soil pollution and solid waste (excluding discharges) • Human induced changes in hydraulic conditions • Forest exploitation without replanting or natural regrowth	• The capacity for the habitats in the SAC to support each feature at near natural population levels, as determined by predominantly unmodified ecological and hydromorphological processes and characteristics, should be maintained as far as possible, or restored where necessary. • The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
			Other ecosystem modifications Source: (JNCC, 2015b)	community composition and structure. - Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state, in order to support the coherence of ecosystem structure and function across the whole area of the SAC. - All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change - Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
				extent that these sites are damaged or destroyed. • The river planform and profile should be predominantly unmodified. Physical modifications having an adverse effect on the integrity of the SAC, including, but not limited to, revetments on active alluvial riverbanks using stone, concrete or waste materials, unsustainable extraction of gravel, addition or release of excessive quantities of fine sediment, will be avoided. • River SSSI features should be in favourable condition. In the case of the Usk Tributaries SSSI, the SAC habitat is not underpinned by a river habitat SSSI feature. In this case, the target is to maintain the characteristic physical features of the river channel, banks and riparian zone.

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
				- Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage, e.g., weirs, bridge sills, acoustic barriers. - Natural factors such as waterfalls, which may limit the natural range of a species feature or dispersal between naturally isolated populations, should not be modified. - Flows during the normal migration periods of sea and river lamprey will not be depleted by abstraction to the extent that passage upstream to spawning sites is hindered. - Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed by NRW as necessary. It is anticipated that these limits will concur with the

Habitats Site	Distance to Proposed Development	Qualifying Features	Threats and Pressures	Conservation Objectives
				standards used by the Review of Consents process. • Water Quality targets follow those in the revised Common Standards Monitoring Guidance for Rivers. • Potential sources of pollution not addressed in the review of consents, such as contaminated land, will be considered in assessing plans and projects Source: (Natural Resources Wales, 2022)

4.0 STAGE 1: SCREENING ASSESSMENT

4.1 IS THE PROJECT DIRECTLY CONNECTED WITH OR NECESSARY TO THE SITE MANAGEMENT FOR NATURE CONSERVATION?

The Proposed Development is not connected with and is not necessary for the management of any Habitats sites detailed in this report.

4.2 ASSESSING RISK OF IMPACT PATHWAYS LEADING TO LIKELY SIGNIFICANT EFFECTS

The Stage 1 assessment of potential effects on Habitats sites is conducted following a standard source-pathway-receptor model, where, in order for an effect to be established, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

Receptors are the ecological features that are known to be utilised by the qualifying features of a Habitat site. A source is any identifiable element of the proposed scheme provision that is known to interact with ecological processes. The pathways are any connections or links between the source and the receptor.

On evaluation of the conservation objectives of the Habitats sites, Table 3 evaluates the potential impact pathways to LSEs as a result of the Proposed Development. The threats and pressures listed are taken from the published JNCC standard data form.

4.2.1 Threats and Pressures Excluded from Consideration

Severn Estuary / Môr Hafren EMS

The screening assessment for Severn Estuary / Môr Hafren EMS will not consider pressures arising from *human induced changes in hydraulic conditions, modification of cultivation practices and outdoor sports and leisure activities, recreational activities*.

Human Induced Changes in Hydraulic Conditions and Modification of Cultivation Practices

The Proposed Development does not involve any cultivation or works within a watercourse or that would impact ground water levels and surface flow rates.

Outdoor Sports and Leisure Activities and Recreational Activities

The Severn Estuary Recreation Mitigation Strategy (Liley & Caals, 2023) indicates the Zol from recreational disturbance is 12.6 km from the Habitats site. Whilst the Proposed Development is within the Zol, it is not of a type considered capable of increasing recreational disturbance upon the Habitat site. As such, *outdoor sports and leisure activities, recreational activities* will not be considered further.

River Usk / Afon Wysg SAC

The screening assessment for River Usk / Afon Wysg SAC will not consider pressures arising from *grazing, forestry activities, forest exploitation without replanting or natural growth or human induced changes in hydraulic conditions*.

Grazing, Forestry Activities and Forest Exploitation without Replanting

The Proposed Development does not involve any grazing or forestry activities, nor is it capable of displacing such activities.

Human Induced Changes in Hydraulic Conditions

As defined above for the Severn Estuary / Môr Hafren EMS, the Proposed Development does not include activities within a watercourse or that would impact ground water levels and surface flow rates.

Soil Pollution and Solid Waste (Excluding Discharges)

The Core Management Plan (Natural Resources Wales, 2022) indicates that the pressure of '*soil pollution and solid waste (excluding discharges)*' is applicable to the catchment area of the River Usk only. It is also not to be misunderstood as pollution to soil, but pollution caused from soil (siltation) that may affect spawning habitat. The '*solid waste*' element also refers to rubble, construction waste and other wastes tipped within the SAC in order to control bank erosion. As the proposed development is located at the mouth of the River Usk, far from the catchment area, and does not propose stabilising the river bank, the pressure of '*soil pollution and solid waste (excluding discharges)*' will not be considered further.

4.2.2 Threats and Pressures Requiring Assessment

Only credible impact pathways where effects are possible have been considered in this RIAA. Therefore, the following impacts will be assessed at Stage 1:

- Changes in abiotic conditions
- Other urbanisation, industrial and similar activities
- Invasive non-native species
- Pollution to surface waters (limnic & terrestrial, marine & brackish)

- Other ecosystem modifications

For ease of assessment, '*other urbanisation, industrial and similar activities*' will not be assessed as a pressure on its own. The effects that could arise from the Proposed Development (during construction and operation) include noise disturbance, visual disturbance, surface water pollution, deposition of air pollution and introduction and spread of INNS. These could in turn result in changes to abiotic conditions.

Equally, due to the geographical proximity of the Habitats sites to the Proposed Development, and the fact the River Usk flows into the River Severn, it is considered necessary, on a precautionary basis, to attribute all pressures as capable of affecting the suite of Habitats sites, not just the habitats they are associated with.

A determination has been made and presented in Table 3 as to whether an LSE exists, and whether the project is required to proceed to HRA Stage 2 AA.

Table 3. Screening Assessment

Site	Impact Pathway		Assessment	Determination of LSE
Severn	Construction Phase			
Estuary / Môr Hafren EMS	Changes in abiotic conditions	Noise and vibration Disturbance	Due to the proximity of the Proposed Development to the Habitats sites, the construction phase is likely to require personnel, plant and machinery in order to complete activities (such as impact piling) that could raise noise above background levels. This may affect mobile avian and mammalian species. The fish species will be unaffected by noise due to distance from the Proposed Development and the watercourse. The PEA (Tetra Tech, 2024) indicates the ponds to the west of the Proposed Development site have potential to support species of overwintering birds and otter. The PEA also describes the scrub habitat within the Proposed Development site may provide suitable foraging and nesting habitat for qualifying bird species, and may also serve as resting or breeding habitat for otter. An LSE from noise disturbance upon qualifying avian and mammalian features cannot be excluded. Noise disturbance will next be considered at Stage 2 AA.	LSE Alone
River Usk / Afon Wysg SAC		Visual Disturbance	Due to the proximity of the Proposed Development to the Habitats sites, the construction phase is likely to require personnel, Plant and machinery in order to complete activities that may act as a visual stimuli. This may adversely affect mobile avian and mammalian species.	

Site	Impact Pathway		Assessment	Determination of LSE
			The fish species will be unaffected by visual disturbance due to distance from the Proposed Development and the watercourse. The PEA (Tetra Tech, 2024) indicates the ponds to the west of the Proposed Development site have potential to support species of overwintering birds and otter. The PEA also describes the scrub habitat within the Proposed Development site may provide suitable foraging and nesting habitat for qualifying bird species, and may also serve as resting or breeding habitat for otter. An LSE from visual disturbance upon qualifying avian and mammalian features cannot be excluded. Visual disturbance will next be considered at Stage 2 AA.	
		Surface Water Pollution	The Proposed Development site is a former PFA storage area. The ground may be contaminated as a result, and will be disturbed during construction through site clearance and vehicle movements. Surface water pollution includes accidental release of pollutants, fuel and chemical spillages, sediment runoff as well as failure of any welfare facilities. An LSE alone from surface water pollution during construction cannot be excluded. This pressure will next be considered at Stage 2 AA.	LSE Alone
		Deposition from air pollution (dust)	In accordance with the Institute of Air Quality Management (IAQM) guidance (Holman et al., 2024) the ZoI of fugitive dust (Figure 3).: - an 'ecological receptor' within: - 50 m of the boundary of the site; - and/or - 50 m of the route(s) used by construction vehicles on the public	LSE Alone

Site	Impact Pathway		Assessment	Determination of LSE
			highway, up to 250 m from the site entrance(s) As the attenuation pond may act as FLL (Tetra Tech, 20205) and this is within 50 m of the Proposed development LSE alone from deposition of dust during construction cannot be excluded. This pressure will next be considered at Stage 2 AA.	
		Deposition from air pollution (road traffic pollution)	The screening criteria set out by IAQM is a change in AADT flows on a given road of 1000 vehicles or 200 heavy duty vehicles (HDVs). The Transport Assessment (RPS, 2025) concludes that the construction phase of the project will lead to an upper threshold below that of concern for road traffic pollution impact pathways to Habitats sites and FLL (Point 9.4) : <i>“It is anticipated that the construction of AW2 BESS will generate 20 staff vehicle movements per day, 30 HGV movements during the export of PFA and typically 18 HGV movements per day during construction period from 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 hours on a Saturday (half of these HGV movements given a shorter working day on a Saturday).”</i>	No LSE either alone or in combination
		Introduction and spread of INNS	The PEA (Tetra Tech, 2024) identified stands of giant hogweed <i>Heracleum mantegazzianum</i> were recorded along a ditch to the southwest of the Proposed Development site. Non-native Buddlejia <i>Buddleja davidii</i> and sea buckthorn <i>Hippophae rhamnoides</i> were recorded onsite. It cannot be excluded that INNS may inadvertently be brought onto the Proposed Development site or inadvertently spread during construction.	LSE Alone

Site	Impact Pathway		Assessment	Determination of LSE
			INNS have the potential to spread off-site and impact the aquatic habitats and affect qualifying species by reducing habitat quality, introducing disease and competing with qualifying species. An LSE from INNS cannot be excluded. INNS will next be considered at Stage 2 AA.	
	Other ecosystem modifications loss of functionally linked land		The PEA (Tetra Tech, 2024) indicates that the scrub habitat within the Proposed Development site may provide suitable foraging and nesting habitat for qualifying bird species and may also serve as resting or breeding habitat for otter. During construction, any functional linkages the Proposed Development site serves will be lost. An LSE from other ecosystem modifications, in the form of loss of functionally linked land, cannot be excluded. Other ecosystem modifications will next be considered at Stage 2 AA.	LSE Alone
	Operational Phase			
	Changes in abiotic conditions	Noise Disturbance	Due to the proximity of the Proposed Development to the Habitats sites, personnel and vehicle movements during operation may affect mobile avian and mammalian species. The fish species will be unaffected by noise due to distance from the Proposed Development and the watercourse. The PEA (Tetra Tech, 2024) indicates the ponds to the west of the Proposed Development site have potential to support species of overwintering birds and otter. The PEA also describes the scrub habitat within the Proposed Development site may provide suitable foraging and nesting habitat for qualifying bird species, and may also serve as resting or breeding habitat for otter.	LSE Alone

Site	Impact Pathway		Assessment	Determination of LSE
			An LSE from noise disturbance upon qualifying avian and mammalian features cannot be excluded. Noise disturbance will next be considered at Stage 2 AA.	
		Visual Disturbance	Due to the proximity of the Proposed Development to the Habitats sites, the operation phase is likely to require personnel, lighting, and vehicles in order to complete activities that may act as a visual stimuli. • This may adversely affect mobile avian and mammalian species. • The fish species will be unaffected by visual disturbance due to distance from the Proposed Development and the watercourse. The PEA (Tetra Tech, 2024) indicates the ponds to the west of the Proposed Development site have potential to support species of overwintering birds and otter. The PEA also describes the scrub habitat within the Proposed Development site may provide suitable foraging and nesting habitat for qualifying bird species, and may also serve as resting or breeding habitat for otter. An LSE from visual disturbance upon qualifying avian and mammalian features cannot be excluded. Visual disturbance will next be considered at Stage 2 AA.	LSE Alone
		Surface Water Pollution	The ground may be contaminated as a result, and will be disturbed during operation through; • site maintenance • vehicle movements.	LSE Alone

Site	Impact Pathway		Assessment	Determination of LSE
			Surface water pollution includes accidental release of pollutants, fuel and chemical spillages, sediment runoff as well as failure of any welfare facilities. The operational stage of the BESS poses a fire risk which may lead to ground contamination, water pollution and release of toxic fumes and substances (from the combustion of the BESS on site materials themselves in addition to any emergency fire suppressant chemicals used). An LSE from surface water pollution during operation cannot be excluded. This pressure will next be considered at Stage 2 AA.	
		Deposition from air pollution (dust)	Vehicle movements during operation would be once per month. An LSE from dust deposition is considered nugatory.	NO LSE either alone or in combination
		Deposition from air pollution (road traffic pollution)	The screening criteria set out by IAQM is a change in AADT flows on a given road of 1000 vehicles or 200 heavy duty vehicles (HDVs). The Transport Assessment (RPS, 2025) concludes that the construction phase of the project will lead to (Point 9.4) : <i>Once the Proposed Development is operational, there would be negligible traffic demand generated. The BESS would not be permanently manned and only the occasional maintenance and inspection visits would be made; this is likely to be once per month or once every few weeks.</i> <i>As a consequence, there would be no regular vehicle movements generated by the Proposed Development when it is operational, thus, there are negligible transport</i>	NO LSE either alone or in combination

Site	Impact Pathway		Assessment	Determination of LSE
			<i>considerations when it is operational. This TA therefore focusses on the construction phase of the BESS It is anticipated that the construction of AW2 BESS will generate 20 staff vehicle movements per day, 30 HGV movements during the export of PFA and typically 18 HGV movements per day during construction period from 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 hours on a Saturday (half of these HGV movements given a shorter working day on a Saturday).</i>	
		Introduction and spread of INNS	Any INNS are expected to be eliminated from the Proposed Development site during the construction phase. Consequently, no INNS will be present during the operation phase. There is no LSE from the introduction and spread of INNS arising during the operation phase.	No LSE – excluded from further assessment
	Other ecosystem modification loss of functionally linked land		Upon completion of the BESS construction, the existing habitats within the Proposed Development that may serve as functionally linked land has been retained. This pressure arises during the construction phase and is already being considered at Stage 2 AA. During operation, the green infrastructure within the RLB' s will have been landscaped in accordance with the Landscape and Ecological Management Plan (LEMP). This is not considered mitigation as it is expected to be a requirement of any positively determined planning application. It is, however, generally accepted that BESS pose a fire risk which may lead to ground contamination, water pollution and release of toxic fumes and substances. This may arise from the combustion of the BESS and also the fire-fighting materials used.	LSE Alone

Site	Impact Pathway	Assessment	Determination of LSE
		An LSE from other ecosystem modifications during operation cannot be excluded. This pressure will next be considered at Stage 2 AA.	

4.3 SCREENING ASSESSMENT FOR LIKELY SIGNIFICANT EFFECTS IN-COMBINATION

In-combination effects are those which when considered alone are not significant, but when combined with the effects of other plans and projects reach a significant level (for example through addition). In this assessment, all pathways which have been screened out at Stage 1 have been screened out on the basis that there is no possibility of a likely significant effect. Therefore, there is no possibility for these pathways to act in-combination.

The impact pathways which are described in Table 3 have been assessed alone, as they have an appreciable impact and could lead to LSE and thus require consideration at AA. No assessment of in-combination effects is required during the screening assessment.

4.4 SCREENING ASSESSMENT CONCLUSION

The screening assessment has concluded that LSE cannot be excluded from multiple impact pathways. These may lead to LSE upon the conservation objectives of the qualifying features described in Table 2. These pressures will next be considered at Stage 2 AA.

5.0 STAGE 2 APPROPRIATE ASSESSMENT

The following sections discuss the pathway to LSE that could result in impacts on the integrity of the Habitats sites identified during Stage 1 Screening.

The DTA Handbook (DTA, 2025) states that ‘*The assessment must be of the implications of the plan or project, for the qualifying features of the site, in view of the site’s conservation objectives, in light of the best scientific knowledge in the field. The assessment should also address the implications of the proposed plan or project for habitat types and species to be found outside the boundaries of the site if those implications may affect the achievement of the conservation objectives of the site.*’

The AA should also include consideration of the conservation status of the qualifying feature(s) in the Habitats site(s) and Habitats sites’ condition.

The conclusions of the AA must inform the Integrity Test and will therefore influence the decision on the application. It should provide the objective, scientific basis necessary to enable the competent authority to make its decision in respect of site integrity with the appropriate degree of confidence.

Therefore, adopting the precautionary principle, these pathways require further consideration at HRA Stage 2 AA.

The mitigation measures described below will provide mitigation for all Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC sites, unless stated otherwise will also mitigate for functionally linked land used by qualifying species of Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC

5.1 DISTURBANCE – NOISE AND VIBRATION TO THE HABITATS SITES AND FUNCTIONALLY LINKED LAND DURING OPERATION AND CONSTRUCTION

5.1.1 Birds

In order to mitigate for the potential disturbance to over wintering birds’ suitable acoustic barriers shall be erected to reduce the level of noise to less than 70 decibels at the receptor, being the functionally linked land at pond 1 and 2 and the Habitat sites (if the noise is acceptable at the closer FLL then it is likely that mitigation will prevent excess noise and vibration to the receptors on the Habitats sites). 70 decibels is the level of noise described within the waterbird’s mitigation toolkit as an acceptable receptor dose. 70 decibels may invoke occasional behaviour responses from birds; these are low level responses such as head up form

foraging activities. If a greater magnitude of sound is received at the receptor, then flight response may occur, which would be an adverse effect to the integrity of the species.

It is therefore advised that mitigation is implemented to negate these adverse effects:

- Suitable receptors for overwintering birds such as pond 1 and pond 2 should be fenced off and signed to prevent access. These ponds could support qualifying species of the Habitats sites and as such are functionally linked land. Fencing should include hoarding to reduce visual disturbance;
- Where possible avoid undertaking particularly noisy activities (such as piling) within the overwintering bird season (October-March); where this is practicable;
- Mitigation in the form of avoidance of construction works two hours either side of the high tide should also be included within the CEMP;
- Acoustic barriers around the exterior of the Proposed Development; working practices with the inclusion of mitigation must not create noise at greater than 70Db at the nearest receptor - ponds 1 and 2; and
- Use acoustic barriers to box in particularly noisy activities.

Control measures and monitoring measures should be described within the CEMP; in order to reduce noise and vibration disturbance to overwintering bird species. The mitigation measures will also mitigate against visual cues by providing acoustic hoarding which will negate any adverse effect caused by visual cues. As this report is prepared on a precautionary basis, the mitigation measures are proposed on the assumption the ponds and scrub habitat will be used by overwintering birds. Therefore, a wintering bird survey is not required as a measure intended to avoid or reduce an adverse effect on site integrity.

5.1.2 Otters

In order to negate further risk to otter a suite of mitigation measures to include reduction of noise and vibration, as described in 5.1.1 and section 5.2 – and further mitigation measures detailed below should be implemented during construction:

- Pre-construction survey for otter to ensure natal holts are not present within pond 1 or pond 2- PEA (Tetra Tech, 2024);
- Ponds 1 and 2 should be fenced off and signed as an exclusion zone;
- Excavations will be covered at night or fitted with mammal ramps to ensure otter and other mammals do not get trapped;
- Any pipework with a diameter over 150 mm will be covered at the end of each workday to prevent otter getting trapped or entering;

- If any otter pathways are identified they must not be obstructed by fencing or parked machinery etc;
- Lighting required for the construction phase will be carefully installed under the advice of a suitably qualified ecologist to ensure there is no excess spill on potential foraging habitat for otters (in particular Ponds 1 and 2);
 1. Where possible, no lighting of ponds 1 and 2 should occur,
 2. Where this is impracticable further mitigation measures must be introduced
 3. Cowls and hoods that limit light spill, timers and sensors should be used to minimise disturbance where lighting cannot be avoided, this should be design in conjunction with a suitably qualified lighting engineer following guidance (such as guidance Note 8 Bats And Artificial Lighting At Night (ILP, 2023) which would provide sufficient safeguard); and
- Any clearance of dense scrub habitat should be done under ECoW supervision. If any other signs are identified works must stop immediately and an ecologist contacted for advise as to how to proceed.

This should be included within a CEMP which would be conditioned and provided to the Competent Authority prior to the commencement of construction.

5.2 VISUAL CUES CONSTRUCTION AND OPERATION

The incorporation of acoustic hoarding will provide a barrier from the ponds which acts as functionally linked land and the proposed Development. It is considered that the intervening distance between the Proposed Development, interceding vegetation and the existing power station would act as screen and no adverse effect to site integrity would occur.

Operational impacts would be result as maintenance visits, which are of a low enough frequency not to lead to an adverse effect to site integrity. Newport County Council can be certain that visual disturbance will not lead to an adverse effect providing acoustic hoarding is used to remove the line of site from the works areas to the retained ponds.

5.3 FUGITIVE DUST CONSTRUCTION PHASE

The attenuation pond provides functionally linked land to the qualifying features the Severn Estuary SPA / Ramsar / SAC. Fugitive dust could adversely affect the vegetation which forms part of the structure and function of this supporting habitat and therefore mitigation to negate impacts from fugitive dust have been detailed.

The details should be outlined in a CEMP (conditioned to the planning permission) and follow the latest Institute of Air Quality Management (IAQM) guidance (2023) on the assessment and control of dust from

demolition and construction activities. The CEMP must aim to minimise fugitive dust emissions, protect local air quality, and reduce nuisance to nearby receptors. Measures include, but may not be limited to:

- Phase works to minimise the area of exposed soil and reduce dust potential;

Dust Suppression

- Use regular water sprays or misting systems to dampen dusty surfaces, especially during dry or windy conditions; and
- Apply dust suppressants (e.g., polymer stabilisers) on haul roads, stockpiles, and exposed soils as needed;

Handling of Materials and Waste

- Cover stockpiles with tarpaulins or sheeting to prevent wind erosion;
- Use wet cutting or breaking methods for materials that generate dust; and
- Remove waste and debris promptly; cover skips and waste storage areas;

Vehicle and Plant Controls

- Restrict vehicle speeds on site to control dust emissions;
- Provide wheel washing facilities at site exits;
- Maintain vehicles and plant regularly to minimise emissions; and
- Ensure construction plant and vehicles do not idle unnecessarily to reduce both dust and exhaust emissions;

Containment and Barriers

- Install screens, fences, or barriers around dusty operations; and
- Enclose high dust-generating activities like demolition, cutting, and grinding where feasible;

Monitoring and Review

- Conduct regular site inspections to ensure dust control measures are effective;
- Monitor dust levels if required and adapt mitigation measures accordingly; and
- Maintain a log of dust complaints, incidents, and actions taken;

Roles and Responsibilities

Site Manager:

- Responsible for day-to-day monitoring of dust controls:

- Conducting site inspections Overall responsibility for ensuring the Dust Management is implemented and maintained; and
- Coordinates communication with local authorities and stakeholders.

The operational phase will not create a fugitive dust and no further assessment is required.

5.4 SURFACE WATER RUN-OFF DURING CONSTRUCTION AND OPERATION

5.3.1 Construction

Works should be undertaken in line with best practice and follow guidelines such as pollution prevention documents, specified within the conditioned CEMP. The Pollution Prevention documents include a series of environmental good practice guidance documents that replace the older Pollution Prevention Guidance (PPGs). These PPGs documents provide regulatory and practical guidance across the UK, with specific regulatory advice for Wales.

These should include:

- GPP 1: General guide to preventing pollution;
- GPP 3: Use and design of oil separators in surface water drainage systems;
- GPP 5: Works and maintenance in or near water;
- GPP 10: Safe storage and disposal of used oils;
- GPP 18: Managing firewater and major spillages;
- GPP 19: Safe storage and handling of chemicals;
- GPP 20: Pollution incident response plans; and
- GPP 22: Dealing with spill.

Implementation in CEMP

- Identify sensitive environmental receptors (water bodies, habitats);
- Implement site-specific pollution prevention measures based on relevant GPPs;
- Establish spill kits and clear procedures for spill response;
- Control runoff and sediment through appropriate engineering controls (silt fences, sediment traps);
- Train site personnel on pollution prevention responsibilities;
- Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact detail; and

- Monitor compliance and maintain records of pollution prevention activities.

5.3.2 Construction and Operation

During construction (and operation) the CEMP should also list detail of the mitigation in place to ensure that all firefighting water can be contained on site and not enter the wider environment. The description and methods to achieve this should include, but not limited to the points below, which shall be detailed in a conditioned CEMP:

- **Thermal Runaway and Fire Detection:**

Utilise thermal runaway detection equipment, automated alert systems, and automated fire suppression systems to quickly detect and prevent fire spread. Engage with the relevant Fire and Rescue Service for advice on system adequacy and fire response planning.

- **Fire Spread Prevention:**

Ensure sufficient spacing between units to minimise the risk of fire spreading.

- **Containment of Contaminated Firewater and Foam Run-off:**

Prevent infiltration of contaminated firewater and foam into soil or offsite drainage by using impermeable surfaces, secondary containment, and sealed drainage systems.

- **Adequate Storage Capacity for Contaminated Firewater:**

Provide sufficient on-site containment capacity to hold contaminated firewater in case of fire, with guidance from the Fire and Rescue Service.

- **Flood Risk Considerations:**

For sites in flood risk areas, mitigate fire risks from flooding and ensure containment systems remain effective without causing pollution.

- **Off-site Transport of Contaminated Firewater:**

Establish effective methods for transporting contaminated firewater away from the site during emergencies, the relevant permitting to enable this should be sought.

- **Post-Incident Cleanup and Remediation:**

Plan for thorough cleanup and environmental remediation following any fire incidents.

- **Responsibilities and Emergency Contact Details:**

Clearly identify all persons and bodies responsible for implementing the CEMP, managing pollution prevention measures, and responding to emergencies. Include up-to-date emergency contact details for:

- Site manager and key site personnel
- Local Fire and Rescue Service
- Environmental regulators
- Spill response contractors or specialist services

5.5 SURFACE WATER DURING OPERATION

The SuDS strategy has been taken from the Planning statement (Carney-Sweeny, 2025) and drainage Strategy report Burroughs, 2025): Burroughs (2025) states that:

“The porous granular stone yards and perimeter swale SuDS features will facilitate effective management of sediments and pollutants within the surface water. The porous surfacing, geotextile liners and chamber catchpits will serve as a primary silt removal / treatment mechanism before surface water discharges to the swale. With reference to the Environment Agency’s Approach to Groundwater Protection (Feb 2018), it is acknowledged that any infiltration systems that bypass the soil layer limit the ability of the ground to remove pollutants. Therefore, surface water will be discharged to the vegetated swale above the surface level”.

SuDS Design Strategy

The following SuDS features are currently proposed across the Scheme to intercept, treat, attenuate, and discharge surface water runoff:

- Porous Paving: Compacted gravel with minimum voids of 30 % throughout the battery ‘yards’ housing containerised batteries, transformers, substations, and inverters;
- Dry Swale: Located within the existing perimeter concrete conduit channel. The dry swale will incorporate cellular attenuation crates and be finished with permeable geotextile and topsoil; and
- Detention Basin: Provides additional storage capacity with extensive vegetation and habitats around the basin perimeter. A flow control chamber will be installed at the outlet from the detention basin.

Surface water from the Proposed Development will largely be managed by porous granular stone ‘yards’ across the containerised battery unit bays. The granular stone yards will be impermeably lined at the base and sides to convey runoff to the perimeter swale and cellular storage tank located in the existing perimeter concrete conduit channel along the southern boundary of the site. This design provides sufficient

attenuation and infiltration while enhancing amenity and biodiversity through landscaping and planting incorporated in the perimeter dry swale.

Surface water will discharge from the perimeter dry swale into the existing detention basin. Peak discharge rates from the basin will be limited to 9.38 litres per second (l/s), not exceeding the current greenfield run-off rate and therefore mimicking the existing set up. Burroughs (2025) described the surface water drainage:

Discharge to Surface Water Body:

All surface water from the AW2 site will discharge to the proposed perimeter swale along the southern boundary. The runoff will exit the swale and discharge into the existing detention basin, then ultimately flow into the existing ditch via the retained existing outfall, identified as discharge point W1b on NRW's Discharge Consent (Ref: 20151223_SUP_LP3131SW_Var002 signed).

Attenuation Features and Flow Management

Attenuation structures shall be designed to prevent flooding during the 1 in 30-year storm event, including climate change allowances, with suitable freeboard incorporated. Hydraulic simulations for the 1 in 100-year + 40% climate change event (and beyond) will assess potential impacts and identify any additional mitigation required to prevent significant downstream flooding.

Safe overflow and exceedance conveyance routes will be provided from all surface water storage locations. Outgoing discharge rates will be controlled to remain within specified allowable pre-development rates to avoid increasing downstream flood risk.

Flow control devices will be designed and sized using manufacturer guidance and InfoDrainage hydraulic modelling to ensure peak discharge rates do not exceed agreed pre-development levels.

Isolation Penstock Chambers and Firewater Containment

Isolation penstock chambers, particularly those within granular yards, will be critical components of the surface water drainage system. In the event of a fire, these chambers can be closed to compartmentalise and isolate runoff containing fire suppression chemicals and foam from the rest of the site. This containment strategy will prevent contamination of clean water and site drainage systems. The approach will be developed in agreement with the Newport City Council Sustainable Drainage Approval Body (SAB) to ensure compliance with local regulations and maximise water quality benefits.

Details of mitigation during SUDs construction

Use sediment control measures (e.g., silt fences, sediment traps) to prevent sediment entering SuDS during construction and to prevent mobilised silt from entering the wider environment following the removal of the concrete slab.

Providing the mitigation measures outlined above are implemented then the competent authority can be certain that the no adverse effect to site integrity will occur.

5.6 INVASIVE NON-NATIVE SPECIES

Giant hogweed is present within the Proposed Development and spread of this species would lead to an adverse effect to Severn Estuary / Môr Hafren EMS and River Usk / Afon Wysg SAC and the functionally linked land within the redline boundary of the Proposed Development. Giant hogweed is listed as species of special concern under retained European Union (EU) law. This means it is an offence to plant or cause these plants to grow in the wild, or intentionally release them into the environment. Schedule 4 of the Invasive Alien Species (Enforcement and Permitting) Order 2019. In order to prevent the spread within site, or introduction to the site of further INNS, prevention and control measures must be outlined within the conditioned CEMP.

Giant hogweed is harmful to humans and causes burns through phytophotodermatitis.

Most recently recorded locations of the giant hogweed are provided within PEA (Tetra Tech, 2024).

Mitigation must include:

- Conduct a site survey prior to commencement to identify and map any giant hogweed populations;
- Clearly mark, with bio security signage, and isolate (fence off with at least a 6m exclusion zone) areas affected by giant hogweed to prevent accidental spread;
- Re-survey and update CEMP to show extent of giant hogweed when required;
- Ensure all site personnel receive training on identification and risks associated with giant hogweed;
- Use appropriate personal protective equipment (PPE), including gloves, long sleeves, and eye protection, when working near or handling giant hogweed;
- Clean and disinfect all machinery, vehicles, and tools before leaving infested areas to prevent seed and plant material transfer;
- Avoid mechanical disturbance of giant hogweed where possible to minimise seed dispersal;
- Dispose of giant hogweed plant material and contaminated soil safely by following local regulatory requirements - giant hogweed plant material (including soil contaminated with seeds) is a

‘controlled waste’ under the Environmental Protection Act 1990 which means it can only be transported by a registered waste carrier to suitably permitted or exempt sites;

- Monitor treated areas regularly for regrowth and undertake follow-up treatments as necessary;
- Maintain records of all giant hogweed management activities and report any new sightings to the relevant environmental authority promptly;
- Implement site access controls to minimise unintentional spread by workers, visitors, or vehicles; and Follow biosecurity signage.

6.0 IN COMBINATION ASSESSMENT

The impacts of the Proposed Development have all been considered alone at the start of the AA. The DTA Handbook (DTA, 2025) states that:

“When a plan or project is screened as having a likely significant effect alone, the appropriate assessment should initially concentrate on its effects alone. If on assessment alone it is ascertained that the subject plan or project will in fact have no effect at all on the European site, an adverse effect in combination is ruled out and no further assessment is required. The plan or project may be authorised.”

Therefore, as the mitigation provided in this report will cancel out all adverse effects there cannot be an in-combination effect and therefore no assessment in-combination is required.

7.0 INTEGRITY TEST

The 'integrity' of a site is considered to be the quality or condition of being whole or complete; or in a dynamic ecological context, as having resilience and an ability to evolve in ways that are favourable to conservation. A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required (DTA Publications, 2025).

The 'integrity of a site' relates to the site's conservation objectives. Taking each qualifying feature in turn, if the conservation objectives for a feature will be undermined, site integrity is necessarily adversely affected. On the contrary, site integrity cannot be considered to be adversely affected if the findings of an AA demonstrate that the conservation objectives will not be undermined alone or in-combination with other plans or projects. The test is whether there is 'reasonable' scientific doubt rather than an absolute certainty. It is not possible to demonstrate, nor is it necessary to show, an absolute guarantee that there will not be an adverse effect on site integrity (DTA Publications, 2025).

The conservation objectives for the Habitats sites are provided in Table 2.

Providing the mitigation and planning conditions are implemented and secured through correct mechanisms then there are sufficient safeguards in place to ensure no adverse effect to site integrity can occur.

8.0 CONCLUSION

This document is a record of the Stage 1 LSE Screening and Stage 2 AA required by Regulation 63 of The Conservation of Habitats and Species Regulations 2017 and undertaken by Tetra Tech in respect of the Proposed Development.

The Stage 1 LSE alone assessment concluded that the Proposed Development would have an LSE on the following Habitats sites:

- Severn Estuary / Môr Hafren SAC
- Severn Estuary SPA and Ramsar
- River Usk / Afon Wysg SAC

A Stage 2 AA has been undertaken regarding the implications of the proposal in consideration of the applicable conservation objectives. The Stage 2 AA has concluded that the Proposed Development would not have an adverse effect on the integrity of the Habitats sites either alone or in-combination with other plans of projects.

Therefore, and in light of the conclusions of this assessment, the competent authority will be able to agree to the project having ascertained that following the implementation of mitigation and use of planning conditions as described in section 5 and in regard of the integrity test described in section 7, that no adverse effect to the site integrity can occur.

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FIGURES

FIGURE 1: SITE LOCATION PLAN

FIGURE 2: HABITAT SITES WITHIN 10 KILOMETRES

FIGURE 3: FUGITIVE DUST ZONE OF INFLUENCE



Site Location Plan

Uskmouth AW2



AW2 Energy Storage Ltd

Legend

Proposed development

Notes:

Drawn by: DYLAN.GUSSMAN

Checked by: Danny de la Hey

Figure No. 1

Revision No. A

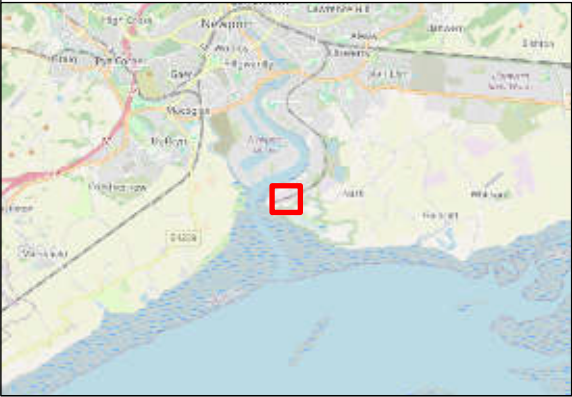
30 June 2025

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Scale 1:2,500 @A3

British National Grid

NGR: 332547E 183534N

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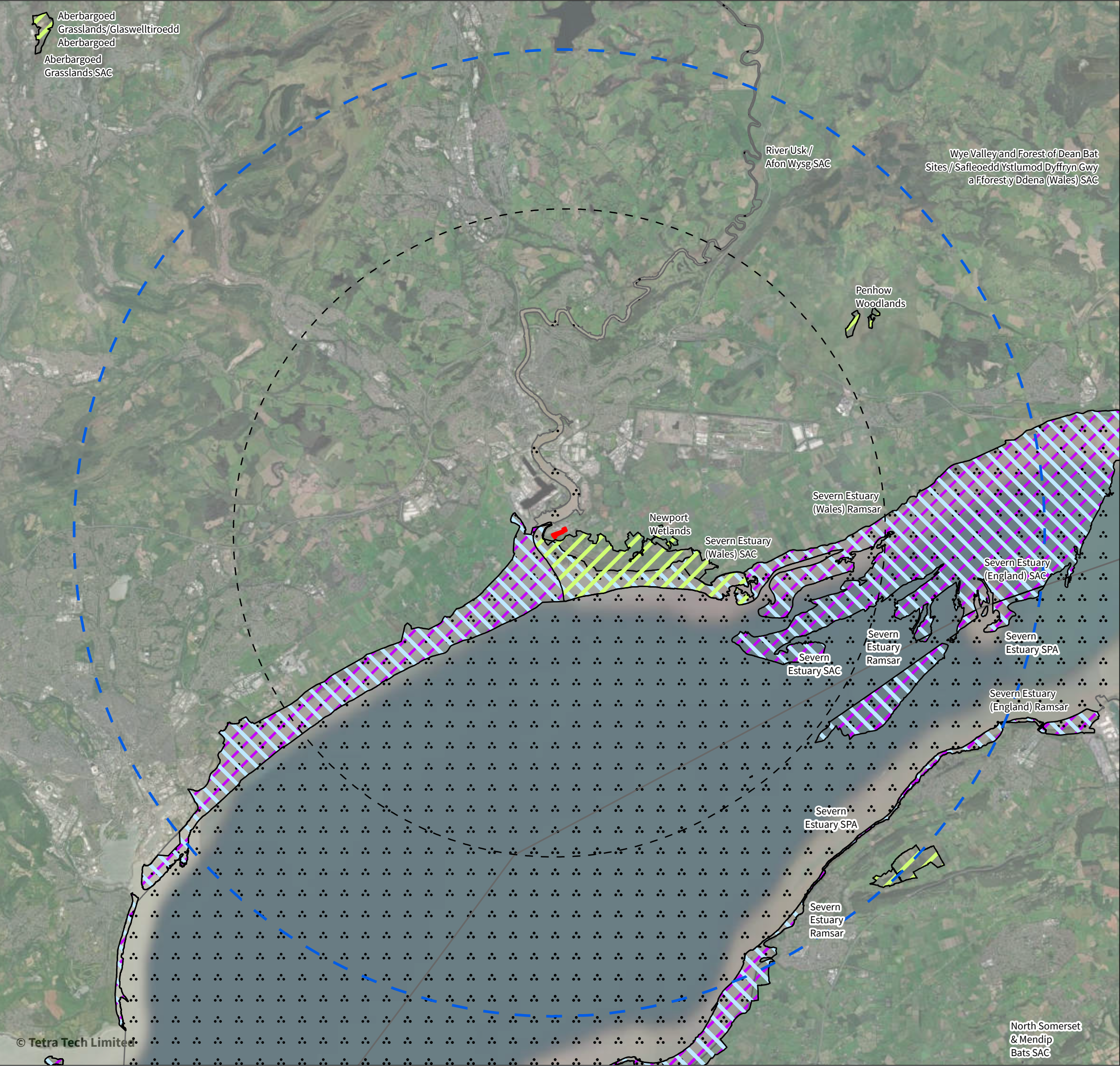




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Habitat sites within 15km

Uskmouth AW2



AW2 Energy Storage Ltd

Legend

- Proposed development
- Zone of Influence (10 km)
- Zone of Influence (15 km)
- Special Areas of Conservation (SAC)
- Ramsar
- Special Protection Areas (SPA)
- National Nature Reserves

Data Sources:
[National Nature Reserves](#)
[Ramsar](#)
[Special Areas of Conservation](#)
[Special Protection Areas](#)

Notes:
Symbology similar to that used within the MAGIC Application

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Figure No. 2

Checked by: Danny de la Hey

Revision No. A

30 June 2025

0 1 2 3 4 Kilometres
Scale 1:117,139 @A3

British National Grid
NGR: 332550E 183535N

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Fugitive Dust Zone

Uskmouth AW2



AW2 Energy Storage Ltd

Legend

- Proposed development
- Zone of Influence (50 m)

Notes:

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Checked by: Danny de la Hey

Figure No. 3

Revision No. A

30 June 2025

0 25 50 75 100 Meters
Scale 1:2,500 @A3

British National Grid

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APPENDIX A: REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Stroma Tidal Power Ltd. (“the Client”) for the proposed uses stated in the report by Tetra Tech Limited (“Tetra Tech”).

The report refers, within the limitations stated, to the environment of the Proposed Development in the context of the surrounding area at the time of the inspections¹. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the Proposed Development and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

Tetra Tech reserves the right to share this Report and any related materials, surveys, drawings and/or documents at any time with the relevant Local Ecological Records Centre (LERC), any relevant statutory body or any equivalent organisation as Tetra Tech may reasonably require from time-to-time.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accepts no liability for issues with performance arising from such factors.