
EXTENDED PHASE 1 HABITAT SURVEY

Llanfaes, Anglesey, Wales

Cadarn Consulting Engineers



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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no guarantee is given as to the possibility of changes in the environment of the site and surrounding area at differing times. The details within this 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.

Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals upon which this report was based on.

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1.0 INTRODUCTION

BACKGROUND

- 1.1 Applied Ecological Services Ltd. was commissioned to undertake a Phase 1 Habitat Survey including a protected species walkover assessment at an area of land at the coast at Llanfaes, Anglesey, Wales, on behalf of Cadarn Consulting Engineers. The aim of the survey was to provide baseline data regarding the site and highlight areas for further investigation that may provide a constraint to project. This report presents an assessment of these potential ecological constraints to the project based on the results of the survey, along with recommendations for further, more detailed surveys to be undertaken, as appropriate.
- 1.2 The study area includes four outfall pipes that discharge onto the upper shore at Llanfaes. The study area lies 1.4km to the north of Beaumaris and 0.4km east of Llanfaes and it encompasses an area of land to the west of the B5109 and to the east of an upper shore of the coast. The study area is bounded to the south, east and north east by shingle and mud above MHW and to the west by the B5109 and a small area of semi-improved grassland with dense and scattered scrub and trees which lies just above mean high water (MHW). To the west of the B5109 there is a sewage works with areas of semi-natural broadleaved woodland and gardens which then borders industrial land and housing. To the north the area is mainly housing, semi-improved neutral grassland and patches of semi-natural broadleaved woodland.

SITE LOCATION

- 1.3 The project footprint comprises the habitat immediately surrounding four outfall pipes located on the upper shore at around the Mean High Water (MHW) level. The site is located at grid reference SH 60950 77450 (approximate central point).

2.0 THE PROPOSED DEVELOPMENT

SITE LOCATION

- 2.1 The survey area includes the habitats on the upper shore where four surface water outfall pipes discharge into Conway Bay. The site is located at OS grid reference SH 60825 76045 (approximate central point). The survey area is referred to as the site or the survey area within the report.

Figure 1: Site Location



- 2.2 The development proposals were originally understood to involve the replacement of four surface water outfall pipes. Rather than a permanent solution the client has now opted for using a machine to clear out any build-up of debris in front of the outlets as and when required, for the next five years.

3.0 SURVEY AND SITE ASSESSMENT METHODS

DESK STUDY

- 3.1 In order to compile existing baseline information, relevant ecological information was requested from the following organisation which for the purposes of this report, included:
- Gwasanaeth Gwybodaeth Amgylcheddol Gogledd Cymru - North Wales Environmental Information Service (Cofnod).
- 3.2 A 2km and 10km radius was searched for sites of International nature conservation importance, such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs); statutory sites of national, regional and local importance, such as Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs), and non-statutory designated sites such as Wildlife Sites (WS) and also for records of protected and priority species.
- 3.3 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider area.

FIELD SURVEY

HABITATS / FLORA

- 3.4 The site was surveyed on the 22nd May, 2020, by Dr Caroline Hillier MCIEEM and assisted by Elizabeth Thompson B.Sc (Hons). Caroline is senior ecologist with Applied Ecological Services Ltd. (AES-LTD) and an experienced field surveyor. Caroline holds a Cyfoeth Naturiol Cymru (Natural Resources Wales) bat survey licence (Licence No. 773933:OTH:CSAB:2016) and Natural England Survey licences for both bats (2015-155181-CLS-CLS) and great crested newt (2015-16700-CLS-CLS). The habitat survey was undertaken using the standard Extended Phase 1 Habitat Survey methodology (JNCC, 2010)¹ to identify specific habitats of ecological interest. Target notes were used to record features of interest or specific habitats and species identified during the survey. Whilst a species list should not be regarded as exhaustive,

¹ JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit

sufficient information was gained during the survey to enable classification and assessment of major habitat types.

- 3.5 Any habitats suitable for, or features with the potential to support, protected or notable species were also assessed and recorded.
- 3.6 Checks for notifiable/invasive species were also made during the survey.

PROTECTED SPECIES WALKOVER

- 3.7 A protected species walkover survey was carried out by Dr Caroline Hillier to assess the potential of the site and immediate surrounds to support protected species.
- 3.8 Signs of potential use of the site by protected species were searched for and potential habitats and ecological interest features were investigated.

SURVEY LIMITATIONS

- 3.9 The habitat survey reported here was undertaken within the optimal survey season, at a time of year when habitats within the site were easily identifiable.

SITE ASSESSMENT

- 3.10 In order to determine the value of the habitats and species found through the surveys detailed above, the baseline and survey results were assessed against the criteria in **Table 1**:

Table 1: Hierarchy of Receptors

Designation
International (Europe);
National (UK);
Regional (North Wales);
County (Gwynedd & Anglesey);
Local (up to approximately 2km from the Proposed Site);
Less than local or value in the Proposed Site only

- 3.11 Receptors of less than local value are referred to as being of 'less than local' value. Effects are only assessed for receptors of sufficient value that impacts upon them could be significant in terms of either legislation or policy, i.e. in this case, those considered to be of local, or greater, ecological value.

4.0 RELEVANT LEGISLATION & POLICY

LEGISLATION

HABITAT REGULATIONS

4.1 The Conservation of Habitats and Species Regulations 2010 transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into UK law, making it an offence to deliberately capture, kill or disturb² wild animals listed under Schedule 2) of the Regulations (such as all bat species and great crested newts). It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). Some bats are additionally listed on Annex II of the Directive; this relates to the designation of Special Areas of Conservation (SACs) and covers greater and lesser horseshoe bats, barbastelle and Bechstein's bat. The Habitats Directive has been transposed into Welsh law through the Conservation of Habitats and Species Regulations 2010 (as amended). Inclusion on Annex IV means that member states are required to put in place a system of strict protection as outlined in Article 12 of the Directive; this is done through inclusion on Schedule 2 of the Regulations. Regulation 41 makes it an offence to:

- Deliberately capture or kill a bat [Regulation 41(1)(a)]
- Deliberately disturb a bat [R. 41(1)(b)]
- Damage or destroy a breeding site or resting place of a bat [R. 41(1)(d)]
- Keep, transport, sell or exchange, or offer for sale or exchange a live or dead bat or any part of a bat [R. 41(3)]

4.2 The definition of disturbance is explained in Regulation 41(2), which states that it includes *any disturbance which is likely:*

(a) to impair their ability – (i) to survive, to breed or reproduce, or to rear or nurture their young...(b) to affect significantly the local distribution or abundance of the species to which they belong.

² Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

4.3 Licences permit otherwise unlawful activities and can only be granted for certain purposes.

4.4 The following plants occurring in Wales are European Protected Species (EPS), and are listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010:

- Fen Orchid, *Liparis loeselii*
- Floating Water-plantain, *Luronium natans*
- Killarney Fern, *Trichomanes speciosum*
- Shore Dock, *Rumex rupestris*

4.5 Under the Habitats Regulations, it is an offence if you deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species. There are other offences relating to possession, transport and sale.

ENVIRONMENT (WALES) ACT (2016)

4.6 Previously Section 42 of the Natural Environment & Rural Communities Act (NERC) (2006) listed species of principal importance for conservation of biological diversity in Wales. Barbastelle bat, Bechstein's bat, noctule, common pipistrelle, soprano pipistrelle, brown long-eared, lesser horseshoe bat and greater horseshoe bat were all species listed on Section 42. Lesser horseshoe bats are also a local Biodiversity Action Plan priority species.

4.7 Part 1 of the Environment Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

Section 6 - Biodiversity and resilience of ecosystems duty

4.8 Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity

- 4.9 This section replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.
- 4.10 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps. Part 1 of the Act, including Sections 6 and 7, came into force on May 21, 2016.
- 4.11 The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act. Building on lessons from the voluntary reporting system that has emerged through the NERC Act, the new duty requires public authorities to report on the actions they have taken to improve biodiversity and promote ecosystem resilience.

WILDLIFE & COUNTRYSIDE ACT

- 4.12 The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CROW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006 (In both Wales & England), consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), making it an offence to:
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or

recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection; and

- Pick or uproot any wild plant listed under Schedule 8 of the Act. Sites of Special Scientific Interest (SSSI) are designated under this Act.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES (NERC) ACT (2006)

- 4.13 The Biodiversity Duty as set out in the Natural Environment and Rural Communities Act came into force on 1st Oct 2006. This states that ‘any public body or statutory undertaker in England and Wales must have regard to the purpose of conservation of biological diversity in the exercise of their function and that decisions of public bodies work with the grain of nature and not against it’ (Part 3, Paragraph 60). The Act also includes a range of measures to strengthen the protection of wildlife and habitats.
- 4.14 Section 40(1) of the Natural Environment and Rural Communities Act 2006 ("the NERC Act") places a duty on every public authority, in exercising its functions, to “have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. The Duty affects all public authorities. Local authorities are a key target group, but the Duty also affects a wide range of public bodies including fire, and police, health and transport authorities etc.
- 4.15 Section 42 of the Natural Environment and Rural Communities Act (2006) required the National Assembly for Wales in consultation with The Countryside Council for Wales (now along with Forestry Commission Wales and Environment Agency Wales part of the single environment body Natural Resources Wales) to publish, review, revise and act on lists of organisms of principal importance in Wales. This list is known as the Section 42 (S42) list of species and habitats of principal importance in Wales. From May 2016, Section 7 of The Environment Wales Act (2016) replaced the duty in section 42 of the NERC Act 2006 (see para. 4.6).

POLICY

NATURAL RESOURCES POLICY STATEMENT

- 4.16 The policy statement supports the Environment (Wales) Act, which places a duty on Welsh ministers to prepare, publish and implement a statutory National Natural Resource Policy (NNRP). This will set out our priorities in relation to the management of natural resources.
- 4.17 This policy statement is a precursor to the statutory NNRP, illustrating potential priorities and opportunities for our natural resources. It will be used to engage our partners to develop and inform the first statutory policy which will be published in Spring 2017.

PLANNING POLICY WALES (2018)

- 4.18 A completely revised 10th edition of Planning Policy Wales was presented in December 2018. The 'Distinctive and Natural Places' theme of planning policy topics (para. 6.01- 6.9.28) covers historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface risks).
- 4.19 Key issues within this theme that are relevant to ecology include:
- **Long-term and chronic decline of biodiversity and habitat loss:** The State of Natural Resources Report (SoNaRR) reports losses of habitats and species' populations over the last century and suggests that decline is chronic, that decline will continue due to events which have occurred and events associated with climate change and habitat fragmentation in the future. At present, there is insufficient resilience in Wales' ecosystems, primarily evidenced by species not recovering.
 - **Adaptation to the effects of climate change:** The combination of warming that has already occurred, together with additional warming, as projected by the latest climate change evidence, means there are potentially significant impacts for Wales in terms of adaptation. Key challenges include flooding and coastal change risks, risks to biodiversity, terrestrial, coastal, marine and freshwater habitats, changing land cover, migrating habitat and species ranges and changes in land use.
 - **Recognising and addressing the factors influencing landscape change:** National landscape change to 2015 has been small overall, but some changes have been substantial locally. The key contributors to landscape change which can be influenced

by the planning system include the expansion of settlements, commercial, industrial, energy and quarrying developments, road improvements and large recreational related developments, including any associated mitigation measures resulting from renewable energy generation, water resource management and through the planned expansion of woodland

- ***Rising levels of airborne pollution:*** SoNaRR reports increases in air pollution across a range of pollutants from urbanisation, road traffic and intensification of agriculture.

4.20 In relation to extended phase 1 habitat surveys the '***Biodiversity & Ecological Networks***' theme is most relevant and requires the following:

4.21 Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

4.22 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- diversity between and within ecosystems;
- the connections between and within ecosystems;

- the scale of ecosystems;
- the condition of ecosystems including their structure and functioning; and
- the adaptability of ecosystems.

4.23 In fulfilling this duty, planning authorities must have regard to:

- the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- the SoNaRR, published by NRW; and
- any Area Statement that covers all or part of the area in which the authority exercises its functions.

4.24 Planning authorities must have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests. Further guidance, particularly in relation to Natura 2000 sites, is contained in TAN 5: Nature Conservation and Planning.

4.25 The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre.

4.26 Developments are **always** subject to the legislation covering European protected species regardless of whether or not they are within a designated site. Proposals for which development works would contravene the protection afforded to European protected species require derogations from the provisions of the Habitats Directive. A derogation may only be

authorised if there is no satisfactory alternative and if the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range. The development works to be authorised must be for the purposes of preserving 'public health or safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment'. Derogations are granted by a licence issued by NRW who should notify planning authorities when a licence application has been granted. Planning authorities are under a duty to have regard to the requirements of the Habitats Directive in exercising their functions. To avoid developments with planning permission subsequently not being granted derogations in relation to European protected species, planning authorities must take the above three requirements for derogation into account when considering development proposals where a European protected species is present.

- 4.27 Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function.

BIODIVERSITY ACTION PLANS / BIODIVERSITY 2020

- 4.28 The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.
- 4.29 The '[UK Post-2010 Biodiversity Framework](#)', published in July 2012, succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking following the publication of the CBD's '[Strategic Plan for Biodiversity 2011–2020](#)' and its 20 'Aichi Biodiversity Targets', at Nagoya, Japan in October 2010, and the launch of the new [EU Biodiversity Strategy \(EUBS\)](#) in May 2011. The Framework demonstrates how the work of the four countries and the UK contributes to achieving the Aichi Biodiversity Targets, and identifies the activities required to complement the country biodiversity strategies in

achieving the targets. The UKBAP is no longer an active strategy, and has been replaced by biodiversity strategies in England, Northern Ireland, Scotland and Wales. While the UKBAP is no longer an active policy, species listed on the UKBAP have been incorporated into the new biodiversity strategies for each country. In Wales under Section 7 of the Environment Wales Act (2016) UK BAP species and habitats were recognised as of principal importance for the conservation of biodiversity. Section 7 requires the production of biodiversity lists and a duty for public bodies to take steps to maintain and enhance biodiversity when carrying out their function. This is commonly referred to as the '**biodiversity duty**'. The Wales Biodiversity Partnership (WBP) have produced biodiversity checklists for local authority and public authority staff in Wales. The checklists will assist public and local authorities to take account of biodiversity in their operational activities and will help organisations to remain legal under the NERC Act (2006) Biodiversity Duty, Habitats Regulations and other biodiversity related legislation. In addition, the implementation of the checklists and guidance will help build towards the biodiversity outcomes contained in the Environment Strategy for Wales.

LOCAL DEVELOPMENT PLANS

- 4.30 Every local planning authority in Wales must prepare a Local Development Plan (LDP) for its area. The LDP will be the development plan for each county, county borough council and each National Park superseding the Unitary Development Plan (UDP) or any other development plan. These LDPs are used by Planning Authorities to inform planning decisions. Relevant Policies in the Anglesey & Gwynedd Joint Local Development Plan (adopted 31st July, 2017) include:

- **Strategic Policy PS 5:** Sustainable Development;
- **Strategic Policy PS 6:** Alleviating and adapting to the effects of Climate Change;
- **Policy ARNA 1:** Coastal Change Management Area;
- **Strategic Policy PS 19:** Conserving and where appropriate enhancing the natural environment;
- **Policy AMG 3:** Protecting and enhancing features and qualities that are distinctive to the local landscape character;
- **Policy AMG 4:** Coastal Protection;
- **Policy AMG 5:** Local Biodiversity Conservation, and
- **Policy AMG 6:** Protecting sites of regional or local significance.

4.31 Of these Policies and strategies Policies **AMG 4, 5 & 6** are the most pertinent.

Policy AMG 4: Coastal Protection

In considering a proposal on the coast, including the Heritage Coast, there will be a need to ensure that the proposal conforms to the following criteria:-

1. The development due to its nature must be located on the coast, or in open estuaries, or nearby, and that there is an overriding economic and social benefit from the development
2. It does not cause unacceptable harm to:
 - i. water quality
 - ii. public access considerations
 - iii. the built environment, or the landscape, or seascape character
 - iv. the area's biodiversity interests (including European Protected Areas such as marine Special Areas of Conservation and Special Protected Areas) due to their, scale, form, appearance, materials, noise, or emissions or due to an unacceptable increase in traffic.
3. Priority is given to locations with a close visual connection to current buildings or existing structures.
4. There are no suitable alternative locations on the coast that have been developed.
5. That the development is consistent with other policies within the Plan including Policy ARNA1

Policy AMG 5: Local Biodiversity Conservation

Proposals must protect and, where appropriate, enhance biodiversity that has been identified as being important to the local area by:

- a) Avoiding significant harmful impacts through the sensitive location of development
- b) Considering opportunities to create, improve and manage wildlife habitats and natural landscape including wildlife corridors, stepping stones, trees, hedges, woodlands and watercourses.

A proposal affecting sites of local biodiversity importance will be refused unless they can conform with all of the following criteria:-

1. That there are no other satisfactory alternative sites available for the development.
2. The need for the development outweighs the importance of the site for local nature conservation;

3. That appropriate mitigation or compensation measures are included as part of the proposal.

Where necessary, an Ecological Assessment which highlights the relevant local biodiversity issues should be included with the planning application.

POLICY AMG 6: Protecting sites of regional or local significance

Proposals that are likely to cause direct or indirect significant harm to Local Nature Reserves (LNR), Wildlife Sites (WS) 1 or regionally important geological / geomorphologic sites (RIGS) will be refused, unless it can be proven that there is an overriding social, environmental and/or economic need for the development, and that there is no other suitable site that would avoid having a detrimental impact on sites of local nature conservation value or local geological importance.

- 4.32 When a development is granted, it will be necessary to ensure that there are appropriate mitigation measures in place. It will be possible to use planning conditions and/or obligations in order to safeguard the site's biodiversity and geological importance

WILDLIFE LEGISLATION

- 4.33 In addition to the above, a range of legislation is in place to ensure that habitats and species of conservation importance are protected from harm, either directly or indirectly. A summary of this legislation is given in Table 1.
- 4.34 Due to its location the site may have the potential to support or provide habitat for a number of those species protected by the various pieces of legislation summarised in **Table 2**. A summary of the key legislation for protected species is given in **Table 3**.

Table 2: Overview of Key Legislation

Legislation	Relevance
The Conservation of Habitats and Species Regulations 2010	This transposes the EC Habitats Directive 1992 (<i>Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna</i>) and the EC Birds Directive 1979 (<i>Council Directive 79/409/EEC on the protection of wild birds</i>) into UK law. Annexes I and II of the Habitats Directive list (respectively) habitats and species for which member states are required to establish and monitor SACs. The EC Birds Directive provides a similar network of sites (SPAs) for all rare or vulnerable species listed in Annex I and all regularly occurring migratory species, with particular focus on wetlands of international importance. Together with SACs, SPAs form a network of pan-European protected areas known as ‘Natura 2000’ sites. The Habitats Regulations also make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4.
The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979)	The Bern Convention aims to ensure conservation and protection of all wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to afford special protection to the most vulnerable or threatened species (including migratory species).
The Wildlife and Countryside Act (WCA) 1981 (as amended)	The WCA is the primary UK mechanism for statutory site designation (Sites of Special Scientific Interest, SSSIs) and the protection of individual species listed under Schedules 1, 2, 5 and 8 of the Act, each subject to varying levels of protection
The Countryside and Rights of Way Act 2000	This legislation strengthens the provision of the 1981 WCA (as amended), both in respect of statutory sites such as SSSIs and protected species. It also places a statutory obligation on Local Authorities and other public bodies to further conservation of biodiversity in the exercise of their functions, thus providing a statutory basis to the Biodiversity Action Plan (BAP) process, which began in 1994.
Hedgerow Regulations 1997	The Hedgerow Regulations 1997 are intended to protect important countryside hedges from destruction or damage in England and Wales.
Natural Environment and Rural Communities Act 2006	The ‘NERC’ Act makes provision in respect of biodiversity, pesticides harmful to wildlife, protection of birds and invasive non-native species. Section 40 of the act also introduced a new duty on public bodies to have regard to the purpose of conserving biodiversity in the exercise of their functions.
Environment (Wales) Act (2016)	The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions

Table 3: Key Legislation for protected species

Species	Key legal protection
Bats (all species)	All European species of bat are listed on Annex IV of the EC Habitats Directive as being in need of “strict protection”. This is implemented in Britain under The Conservation of Habitats and Species Regulations 2010. All British bats are included on Schedule 5 of the WCA (1981) and the whole of Section 9 of The Act applies to European bat species. In summary, the above legislation collectively prohibits the following: • Deliberately or recklessly capturing, injuring, taking or killing of a bat; • Deliberately or recklessly harassing a bat; • Intentionally or recklessly disturbing of a bat in its place of rest (roost), or which is used for protection or rearing young; • Deliberately or recklessly damaging, destroying or obstructing access to any resting place or breeding area used by bats; • Deliberately or recklessly disturbing a bat in any way which is likely to significantly affect the local populations of the species, either through affecting their distribution or abundance, or affect any individuals ability to survive, reproduce or rear young; • Possession or advertisement/sale/exchange of a bat (dead or alive) or any part of a bat. In Wales, licences are issued by Natural Resources Wales for any actions that may compromise the protection of a European protected species, including bats, under the Habitats Regulations 2010. This includes all developments, regardless of whether or not they require planning permission. Bats are also protected by the Wild Mammals (Protection) Act 1996 and selected species are listed on the UK Biodiversity Action Plan (BAP) and the local Biodiversity Action Plan (LBAP).
Birds	The majority of bird species, with the exception of some species listed on Schedule 2, are protected under the WCA 1981 (as amended). This makes it an offence to intentionally or recklessly: • Kill, injure or take any wild bird; • Take, damage or destroy any nest which is in use or being built; and • Take, damage or destroy the eggs of any such bird. Additional protection against disturbance whilst at the nest is also afforded to any bird species, whether an adult bird or their dependant young, which is listed on Schedule 1 of the Act. Council Directive 2009/147/EC on the conservation of wild birds (the ‘Birds Directive’) provides for the conservation and management of all wild bird species naturally occurring in the European Union, their nests, eggs and habitats. The Birds Directive bans activities that directly threaten birds (e.g. deliberate killing and destruction of nests and young), regulates hunting of selected species, bans non-selective and large scale killing of birds, and promotes research for bird conservation and management. Article 4(4) of the Birds Directive requires that member states “should strive to avoid pollution or deterioration of habitats.” The Conservation of Habitats and Species (Amendment) Regulations 2012 provide a fuller

	transposition of the Birds Directive into English law. Regulation 8 introduces a new Regulation 9A to the Habitats Regulations for duties of appropriate authorities in relation to wild bird habitat. Regulation 9A(3) addresses the transposition of Article 2 of the Birds Directive, while Regulation 9A(8), requiring competent authorities to “use all reasonable endeavours” to “avoid any pollution or deterioration of habitats of wild birds.” Certain species are also listed as being of priority conservation importance on the UK and Local BAPs.
Badger	Badger are protected under the Protection of Badgers Act 1992, which makes it an offence to: • Knowingly kill, capture, injure or disturb any individual; • Intentionally damage or destroy a badger sett, or any part thereof; • Obstruct access to an area which is used for breeding, resting or shelter; and • Disturb a badger while it is using any place used for breeding, resting or shelter. The species is also protected by the Wild Mammals (Protection) Act 1996.
Reptiles	All common reptile species (common lizard, slow-worm, grass snake and adder) are partially protected under Sections 9(1) and 9(5) of Schedule of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from: • intentional killing and injury; • selling, offering for sale, possessing or transporting for the purpose of sale or publishing advertisements to buy or sell a protected species. The more threatened species of reptile, smooth snake and sand lizard are fully protected under Schedule 5 (Section 9) and under schedule 2 of the Conservation of Habitats and Species Regulations 2010, which designate them ‘European protected species’. It is an offence to capture, possess, disturb, kill, injure, or trade in individuals of these species. In addition, it is an offence to damage or destroy the places they use for breeding or resting.

5.0 RESULTS

DESKTOP ASSESSMENT

- 5.1 Cofnod returned information regarding sites of nature conservation, both statutory and non-statutory, and protected and priority species on 21st August, 2020. The desktop assessment indicates that there are two statutory sites of international conservation interest and five sites of national conservation interest within the 2km search area. There are also 4 non-statutory sites and 24 ancient woodland sites.

STATUTORY DESIGNATED SITES

- 5.2 There are seven statutory sites of international conservation interest within the 10km search area (**Table 4**). The location of these sites in relation to the outfalls is shown on **Drawing 1a**.

Table 4: Statutory designated sites of international conservation interest within 10km.

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
Special Areas of Conservation (SAC)	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Annex I habitats that are a primary reason for selection of this site. 1110 Sandbanks which are slightly covered by sea water all the time. Menai Strait and Conwy Bay between mainland Wales and Anglesey includes the Four Fathom Banks complex, which is a relatively rare type of subtidal sandbank in Wales varying from stable muddy sands in areas that experience weak tidal streams to relatively clean well-sorted and rippled sand in the outer area of the bank where tidal streams are stronger. In very shallow waters sandy communities are dominated by polychaetes such as <i>Spio filicornis</i>. In some years when numbers of bivalves are high, internationally important flocks of common scoter <i>Melanitta nigra</i> have been observed to congregate in the area of the Four Fathom Banks complex to feed. 1140 Mudflats and sandflats not covered by seawater at low tide. The intertidal mudflats and sandflats of the Menai Strait and Conwy Bay on the north Wales coast include Traeth Lafan, the shores of the Menai Strait, and the Foryd estuary. Traeth Lafan is an example of an almost fully	26501.64	SH 629 728	0km Within SAC

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	marine extensive mud and sandflat that experiences a broad range of wave exposure, providing a range of sediment types with typical associated communities. For example, the shrimps <i>Haustorius arenarius</i> and <i>Bathyporeia sarsi</i> are found in mobile clean sand, whilst bivalves such as the cockle <i>Cerastoderma edule</i>, the gaper <i>Mya arenaria</i> and Baltic tellin <i>Macoma balthica</i> are common in more sheltered fine and muddy sand. The sand-mason worm <i>Lanice conchilega</i> is found in more tide-swept areas. The mixed sediment shores between Beaumaris and Lleiniog include a nationally important biotope that is rare in the UK. The nationally scarce dwarf eelgrass <i>Zostera noltei</i> is also found at this site. 1170 Reefs. The reefs of the Menai Strait and Conwy Bay include the tidal rapids of the Menai Strait, and limestone reefs along the south-east Anglesey coast and around Puffin Island and the Great and Little Ormes. The environmental conditions of the Menai Strait are unusual. The water is relatively turbid, containing a relatively high level of suspended material, and although the area is largely sheltered from wave action tidal streams are strong, reaching up to 8 knots (4 m s^{-1}) in places during spring tides. As a result, the rocky reefs of the Strait are dominated by a diverse and unusual mixture of animals that feed mainly by filtering their food from the seawater. For example, colonies of sponges, such as the breadcrumb sponge <i>Halichondria panicea</i>, grow to unusually large sizes, with single colonies covering areas of over 1 m^2. The limestone reefs are home to several species that bore into rock, and some limestone specialists are restricted to this relatively rare habitat. Species include the rock-boring sponge <i>Cliona celata</i>, piddocks <i>Hiatella arctica</i>, polychaete worms <i>Polydora</i> sp., and acorn worms <i>Phoronis hippocrepia</i>.			
Special Areas of Conservation (SAC)	Coedydd Aber Annex I habitats that are a primary reason for selection of this site. • Old sessile oak woods with Ilex and Blechnum in the British Isles.	345.88	SH 664 713	6.52 km SE

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	Coedydd Aber is the largest continuous area of old sessile oak wood along the north Wales coast. The main woodland extends along a valley, rising steeply from near sea level. The canopy consists largely of sessile oak <i>Quercus petraea</i> and downy birch <i>Betula pubescens</i> , but there are intricate transitions to ash <i>Fraxinus excelsior</i> woodland and extensive areas of alder <i>Alnus glutinosa</i> woodland. The ground flora is diverse, reflecting complex edaphic and management variations. There is a rich lower-plant flora, including the rare mosses <i>Fissidens rufulus</i> and <i>Philonotis rigida</i> , and the lichens <i>Degelia plumbea</i> and <i>Lobaria amplissima</i> . The site is also important for its breeding bird assemblage.			
Special Areas of Conservation (SAC)	Eryri / Snowdonia Annex I habitats that are a primary reason for selection of this site are as follows: • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea. • Siliceous alpine and boreal grasslands. • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels. • Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>). • Calcareous rocky slopes with chasmophytic vegetation. • Siliceous rocky slopes with chasmophytic vegetation.	19732.98	SH695658	6.33km SW
Special Protection Areas (SPA)	Traeth Lafan /Lavan sands The site qualifies under Article 4.2 (79/409/EEC). Over winter the area regularly supports: Oystercatcher <i>Haematopus ostralegus</i> which migrates from Europe & Northern/Western Africa. 5500 individuals are present which make up 1.4% of the population in Great Britain (5 year mean 1992 - 1996). Curlew <i>Numenius arquata</i> (Europe - breeding) 1500 individuals make up 1.1% of the population in Great Britain (5 year mean 1992 - 1996).	2703.13	SH639750	0.47km SE

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	On passage the area regularly supports: Great crested grebe <i>Podiceps cristatus</i> (North-western Europe - wintering) 500 individuals.			
Potential Special Protection Areas (pSPA)	Liverpool Bay / Bae Lerpwl The pSPA qualifies under Article 4 of the Birds Directive (2009/147/EC) for the following reasons: Species listed in Annex I of the Birds Directive: The site regularly supports more than 1% of the Great Britain populations of two breeding species Little Tern <i>Sternula albifrons</i> 130 breeding pairs, 6.84% of GB population and Common tern <i>Sterna hirundo</i> 180 breeding pairs, 1.80% of GB population and one non-breeding species, Red throated diver <i>Gavia stellata</i> 1171 individuals, 6.89% of GB population. Therefore the site qualifies for SPA classification in accordance with the UK SPA selection guidelines (stage 1.1: JNCC 1999). Regularly occurring migrants not listed in Annex I of the Birds Directive: the site regularly supports more than 1% of the biogeographical populations of one non-breeding species Common Scoter <i>Melanitta nigra</i> , 56 697 individuals, 10.31% of NW European population and Little gull <i>Hydrocoloeus minutus</i> 319 individuals. Therefore the site qualifies for SPA classification in accordance with the UK SPA selection guidelines (stage 1.2: JNCC 1999). Assemblages: the site regularly supports an assemblage of more than 20,000 individual waterbirds.	170,293	SJ 261 988	3.45km E
Special Protection Areas (SPA)	Anglesey Terns / Morwenoliaid Ynys Môn The site qualifies under Article 4.1 (79/409/EEC) as during the breeding season the area regularly supports: Roseate tern <i>Sterna dougallii</i> - 3 pairs representing 5% of the GB breeding population (5 year mean 1992 to 1996). Common tern <i>Sterna hirundo</i> - 189 pairs representing 1.5% of the GB breeding population (5 year mean 1992 to 1996). Arctic tern <i>Sterna paradisaea</i> - 1,290 pairs representing 2.9% of the GB breeding population (5 year mean 1992 to 1996). Sandwich tern <i>Sterna sandvicensis</i> - 460 pairs representing 3.3% of the GB breeding population (5 year mean 1993 to 1997).	101,931.08	SH 27364 97622	5.56km N

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
Special Protection Areas (SPA)	Puffin Island / Ynys Seiriol The site qualifies under Article 4.2 (79/409/EEC) as during the breeding season the area regularly supports: Puffin <i>Phalacrocorax carbo</i> (North-western Europe) 556 individuals, 1.35% of the breeding population (5 year mean for 1996-2000).	31.32	SH 65053 81996	6.52km NE

- 5.3 Special Areas of Conservation are sites of European conservation importance, protected under Article 3 of the European Union Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC; the 'Habitats Directive'), implemented in Welsh law through the 2010 Conservation of Habitats & Species Regulations. They have been established in order to conserve habitat types and species considered to be most in need of conservation at a European level, identified on Annexes I and II of the Habitats Directive.
- 5.4 Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive (EC Directive on the conservation of wild birds (79/409/EEC)), which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.
- 5.5 The results of the desktop study indicate that in addition to Menai Strait and Conwy Bay SAC and Lavan Sands, Conway Bay SPA which lie within 2km of the outfall pipes, there are an additional five statutory designated sites of national or regional conservation interest within the 2km search area (**Table 5**).

Table 5: Statutory designated sites of national or regional conservation interest within 2km.

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
Area of Outstanding Natural Beauty (AONB)	Ynys Môn/Anglesey Almost the entire 201 km coastline of the Isle of Anglesey is designated as an AONB. The island contains a great variety of fine coastal landscapes and the AONB coincides with three stretches of Heritage Coast. Some of the oldest rocks in Britain, the pre-Cambrian Mona Complex, form the low ridges and shallow valleys of Anglesey's sea-plain plateau. Holyhead Mountain is its highest	21,500	SH36456 68914	0km

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	point (219m) with superb distant views to Snowdonia. Low cliffs, alternating with coves, pebble beaches and tucked-away villages, line the island's northern shores. The east coast's sheer limestone cliffs, interspersed with fine sandy beaches, contrast with the south's wilderness of sand dunes that roll away down to Aberffraw Bay. Varied habitats, from marine heaths to mud-flats, give the AONB a high level of marine, botanical and ornithological interest. The dunes of Newborough National Nature Reserve are a noted example of this complex habitat and the island's limestone cliffs are an important nesting site. Anglesey has an important historic landscape, with its protected sites ranging from Bronze Age burial chambers to medieval, World Heritage Site – Beaumaris Castle. Two areas within the AONB are listed in the Register of Landscapes of Outstanding Historic Interest in Wales. The AONB's rural economy is traditionally based on small-mixed-agricultural holdings, and tourism plays a significant part in the rural economy, largely centred on static caravan sites. The AONB is also an important recreation area both for local people, for day visitors from across North Wales and also for urban north-west England. Sailing, riding, sea fishing, diving and cliff climbing are just some of the leisure demands on the AONB coastline. The 201 km Isle of Anglesey Coastal Path is a popular route to discover and explore the AONB. A number of the habitats found on Anglesey are afforded even greater protection both through UK and European designations because of their nature conservation value, these include: • 5 Special Areas of Conservation (SACs) • 3 Special Protection Areas (SPAs) • 1 National Nature Reserve • 31 Sites of Special Scientific Interest (SSSI) 75 Scheduled Ancient Monuments (SAMs)			
Sites of Special Scientific Interest (SSSI)	Glannau Penmon – Biwmares The site extends along 6km of the Anglesey shore of the Menai Strait, from the Coastguard Station at Penmon in the north to the old	170.7	SH 609 762 to SH 642 810	0km

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	swimming pool at Beaumaris in the south, and is selected for its geological and marine biological features. The south-east facing shore is sheltered from wave-action and consists of a complex mixture of boulders, cobbles, gravels, sands and muds. The solid geology of the site consists of Ordovician shales in the southern part of the site and Carboniferous Limestone towards the north. The coastal cliffs consist of boulder clay and glacial sands and gravels. The site is of special interest for its intertidal communities of animals and plants typical of mixed sediment and of muddy gravel shores; four intertidal communities of restricted national distribution; two species-rich intertidal communities of marine plants and animals; a succession of ice-age sediments, exposed in the soft coastal cliffs and foreshore at Lleiniog. The strong tidal currents of the Menai Strait allow filter-feeding animals to proliferate within areas dominated by serrated wrack <i>Fucus serratus</i> on lower shore bedrock and on cobbles in muddy gravel. Communities of filter-feeding animals such as the bryozoans <i>Bowerbankia citrina</i>, <i>Membranipora membranacea</i> and <i>Bugula turbinata</i>, and the sea-squirt <i>Morchelium argus</i> occur on seaweeds and rock surfaces in these areas. In places, burrowing animals such as piddocks, wrinkled rock borers <i>Hiatella arctica</i> and the boring sponge <i>Cliona celata</i> occur in limestone boulders in the serrated wrack zone, whilst a diverse community comprising the sea-squirrels <i>Aplidium proliferum</i>, <i>Ciona intestinalis</i> and lightbulb sea-squirt <i>Clavelina lepadiformis</i>, and the sponges <i>Hymeniacidon perleve</i>, breadcrumb sponge <i>Halichondria panicea</i>, purse sponge <i>Grantia compressa</i> occurs on the surface of these boulders. Another unusual species-rich community, sheltered muddy gravel dominated by species of small marine worms, is found in patches along the length of the shore. Worms such as lugworm <i>Arenicola marina</i>, ragworm <i>Hediste diversicolor</i>, sand mason <i>Lanice conchilega</i>, peacock worm <i>Sabella pavonina</i>, and Scoloplos armiger are all found in this assemblage. Numerous small animals inhabit under-boulder surfaces and the underlying sediment, including the porcelain crabs <i>Porcellana</i>			

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	<i>platycheles</i> and <i>Pisidia longicornis</i>, plumose anemones <i>Metridium senile</i>, the anemone <i>Sagartia elegans</i>, sponges such as the breadcrumb sponge and purse sponge <i>Scypha ciliata</i>, and <i>Morchellium argus</i> and other sea-squirts. Lower-shore bedrock overhangs support a similarly rich community, also comprising anemones, sea-squirts, bryozoans, sponges and worms. The cliffs of glacial till to the east of Beaumaris are of local significance for invertebrates, supporting one of few populations of the ground beetle <i>Bembidion saxatile</i> in north Wales. Owing to its close proximity to Traeth Lafan, an internationally important site for wading birds and wildfowl, this shore provides an important high tide roosting area for waders that feed on Traeth Lafan, including Oystercatchers.			
Sites of Special Scientific Interest (SSSI)	Baron Hill Park A Park containing ancient trees which support a diverse and interesting epiphytic lichen flora. A total of 118 lichen species have been recorded from all substrata in the Park. The epiphytic lichen flora includes a continental element with the species typical of low rainfall and high sunshine areas more commonly found in southern England. It contrasts markedly with the lichen floras of North Wales woods. Lichen species of particular note include <i>Parmelia soledians</i>, <i>Arthonia impolita</i>, <i>Caloplaca luteoalba</i>, <i>Parmelia reticulata</i>, <i>Rinodina riboris</i> and <i>Schismatomma decolorans</i>. <i>Anaptychia fusca</i>, which normally grow on maritime rocks, is found here on the bark of an oak tree.	112.5	SH 605 770	0.23km W & SW
Sites of Special Scientific Interest (SSSI)	Traeth Lafan / Lavan Sands This large intertidal area contains a range of habitats from sands exposed to waves and tidal currents at the seaward edge to sheltered sand and mudflats. Freshwater streams flowing across the area add to the diversity. Dwarf eelgrass <i>Zostera noltii</i> occurs near Aber. The abundant invertebrate fauna of species such as <i>Cyathura</i> and <i>Scrobicularia</i> attracts large flocks of birds. For wintering waders this is the third most important ground in Wales, with an annual peak of 10,000-14,000 waders of ten species. In addition, there are up to 1,500 wintering duck. The sands are of national importance for their assemblies of	2700	SH 630750	0.47km E

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from site
	moulting great-crested grebes and red-breasted mergansers, and are regionally important for shelduck.			
Local Nature Reserves (LNR)	Traeth Lafan / Lavan Sands The nature reserve comprises 9.5 kilometres of beach between Bangor and Llanfairfechan. A mix of shoreline habitats, and approximately 2,500 hectares of intertidal sand and mud flats which are exposed at low tide. It is an important areas for a number of species, including moulting great crested grebes, oyster catchers, red breasted mergansers and golden eye.	2500	SH 630750	0.47km E

5.6 Sites of Special Scientific Interest (SSSIs) are designated under Section 28 of the 1981 Wildlife and Countryside Act (as amended) for their ecological or geological interest.

5.7 The legal framework for Areas of Outstanding Natural Beauty is provided by the Countryside and Rights of Way Act 2000 in Wales and England. The Act places a statutory duty on relevant authorities to have regard to the purpose of conserving and enhancing the natural beauty of the AONB when exercising or performing any functions affecting land in the AONB. "Relevant authorities" are any public bodies including local and statutory authorities, parish councils and statutory regulators.

5.8 Local Nature Reserve (or LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006, by principal local authorities. All these sites are managed in partnership with Natural Resources Wales, RSPB Cymru, a number of town or community councils and other community groups

NON-STATUTORY DESIGNATED SITES

5.9 There are five non-statutory sites within the 2km search area; the details of which are provided in **Table 6**.

Table 6: Non-Statutory designated sites

Designation	Site Name & Description	Area (ha)	Grid Ref. (centroid)	Distance & Direction from Site
Wildlife Site (WS)	Dolydd Lleiniog. An area of basic herb-rich marshy grassland on clay soil with a slow flowing river through it. The grassland exhibits variable drainage, with willow and alder scrub on wetter patches, along with abundant horsetails. Meadowsweet, water mint and lesser spearwort are frequent, early purple orchids occur throughout, and the local lady's mantle is present. Rare species for Anglesey recorded growing here include fen bedstraw, wild madder and meadow cranesbell. The grassland at the north-west end has been somewhat improved since 1983. The wooded areas are co-dominated by sycamore, alder, beech and ash with a ground flora of wild garlic. In recent years naturalistic deciduous plantation has been planted as part of a tree planting scheme (Lleiniog Rivers Project) and includes species such as Alder, Ash, Willow, Rowan and Birch. There is a small reed bed at the outflow of the river on the seaward side of the road. Birds breeding include blackcap, garden and sedge warblers, mallard and moorhen, and water rails are present. Two species of woodpeckers have been recorded.	9.42	SH 6149 7927	1.59km NNE
Wildlife Site (WS)	Coed Ystad Baron Hill Although access to these sites was refused, they have been included here because they form a very significant area of old broadleaved woodland which are known by repute to be species-rich botanically and ornithologically. The northeast of the site joins Baron Hill Park SSSI.	87.75	SH 59 52 75527	0.88km W
Regionally Important	Beaumaris Cliff & Drumlin	4.3	SH 609 764	0.2km S

Geodiversity Sites (RIGS)	Important due to its sedimentary sequences and glacial / glaciofluvial landforms.			
Regionally Important Geodiversity Sites (RIGS)	Beaumaris (Salop) Soils. Science	0.5	SH 619 788	1.59 NNE
Regionally Important Geodiversity Sites (RIGS)	Aberlleiniog Quaternary and geomorphology.	5.9	SH 621 790	1.8km NE

- 5.10 Wildlife Sites (WS) are areas of land which are rich in wildlife. Criteria for selection take in threats and declines in certain species, national priorities and local distinctiveness. The WS system is managed, in partnership, by The Wildlife Trust, local authorities, statutory nature conservation agencies, local naturalists and landowners. WS are non-statutory sites of County level importance, and protected under planning policies of the Local Authority.
- 5.11 Regionally Important Geological and Geomorphological Sites (RIGS), also known as Regionally Important Geological Sites, or in Wales as Regionally Important Geodiversity Sites are locally designated sites of local, national and regional importance for geodiversity (geology and geomorphology) in the UK. RIGS may be designated for their value to Earth Science, and to Earth heritage in general, and may include cultural, educational, historical and aesthetic resources. They are conserved and protected from development as a material consideration through the planning system by the *Town and Country Planning Act 1990*.
- 5.12 Other non-statutory sites of nature conservation interest include twenty-four ancient woodland sites within the 2km search area. This includes 17 restored ancient woodland sites, 4 plantation on ancient woodland sites and 3 ancient semi-natural woodlands.
- 5.13 Locations of statutory and non-statutory designated sites in relation to the study area are illustrated on **Drawing 1b**.

ECOLOGICAL RECORDS

PROTECTED SPECIES

- 5.14 Grŵp Ystlumod Gwynedd (Gwynedd Bat Group) covers the areas of Anglesey, Gwynedd and western Conwy, including the Snowdonia National Park. Grŵp Ystlumod Gwynedd state that the species found in their area include the following:

- **Common pipistrelle** *Pipistrellus pipistrellus*
- **Soprano pipistrelle** *Pipistrellus pygmaeus*
- **Brown long-eared bat** *Plecotus auritus*

The three most common species, very dependent on buildings.

- **Nathusius' pipistrelle** *Pipistrellus nathusii* - Known from only a small number of detector records.

Leisler's *Nyctalus leisleri* - May have been overlooked.

- **Noctule** *Nyctalus noctula* – Our largest bat, it mainly roosts in tree hollows.
- **Serotine** *Eptesicus serotinus* – Quite common in southern England but poorly known in Wales. One roost recently discovered in north Wales.
- **Barbastelle** *Barbastelle barbastellus* – a very rare tree roosting bat. It has been recorded in north west Wales, but no roosts have been found to date.
- **Natterer's bat** *Myotis nattereri*
- **Whiskered bat** *Myotis mystacinus*
- **Brandt's bat** *Myotis brandtii*

The members of this closely related group may be more numerous in Wales than in much of Britain.

- **Daubenton's bat** *Myotis daubentonii* – maybe less dependent on buildings than others.
- **Greater horseshoe** *Rhinolophus ferrumequinum* – Very rare with only a few individuals recorded in north Wales.
- **Lesser horseshoe** *Rhinolophus hipposideros* – A rare species that has its stronghold in Wales and has a core population in North West Wales.

- 5.15 Cofnod provided 116 records, these data were filtered to include records from the last 10 years relating to species with European / UK legal protection, Section 42 (NERC), S7 and UK

BAP priority species. The location of protected species records in relation to the site is illustrated on **Drawing 2**.

Birds

- 5.16 Cofnod provided 69 bird records comprising 33 bird species within a 2km radius of the study area. These records include two bird species protected under schedule 1 part 1 of the Wildlife and Countryside Act 1981 (as amended), including: **Scaup** *Aythya Marila* and **Great Northern Diver** *Gavia Immer*.
- 5.17 The nearest records of a bird species protected under schedule 1 part 1 of the WCA is of **Scaup** 0.38km south east in the Menai Strait off the Beaumaris coast and **Great Northern Diver** 0.64km south south west At Gallows Point.

Mammals

Bats

- 5.18 Cofnod provided 14 bat records comprising of 9 bat species within a 2km radius of the study area, none of the records related to bat roosts. These records included **common pipistrelle** *Pipistrellus pipistrellus*, **soprano pipistrelle** *Pipistrellus pygmus*, **Nathusius' pipistrelle** *Pipistrellus nathusii*, **lesser horseshoe bat** *Rhinolophus hipposideros*, **Daubenton's bat** *Myotis Daubentonii*, **noctule bat** *Nyctalus noctula*, **Natterer's bat** *Myotis nattereri*, **whiskered/Brandt's bat** *Myotis mystacinus/brandtii* agg. and **brown long-eared bat** *Plecotus auritus*. The nearest record of bats in relation to the survey area is 0.26km west, which is a record for an injured brown long-eared bat found in a factory.

Red squirrel

- 5.19 Cofnod provided six records of **red squirrel** *Sciurus vulgaris* within the 2km search area. The records related to areas of woodland to the north of Beaumaris where Bryn Teg meets the B5109 and to the south of Beaumaris in the woods near Iscoed. The nearest record is of a red squirrel 1.25km to the south west in the woodland along Allt Goch Fawr, Beaumaris.

Reptiles

- 5.20 There is one record of **slow-worm** *Anguis fragilis* within the 2km search area, observed 0.7km south south west of the site just north of the town of Beaumaris. It was observed 2 days running wrapped around the neck of the recorder's cat and on both occasions it, and the cat, were released unharmed!

PRIORITY SPECIES

Amphibians

- 5.21 Five amphibian records were provided comprising three species. The records comprise three records of **common toad** *Bufo bufo* (LBAP & S7), one record of **common frog** *Rana temporaria* (LBAP) and **palmate newt** *Lissotriton helveticus* (LBAP). The closest amphibian record to the site is that of a common toad 0.7km to the west within Henlly's Golf Course. The remaining amphibian records pertain to various sites within Henlly's Golf Course around ponds, next to small streams and under logs and a common toad in a residential garden in Beaumaris.

Birds

- 5.22 Cofnod provided 69 bird records comprising 33 bird species within a 2km radius of the study area. There are 31 records of priority species including those listed on S7, UK and LBAP bird species within the 2km search area. The records include the following 21 species:

- **arctic tern** *Sterna paradisaea*;
- **black guillemot** *Cephus grille*;
- **black-headed gull** *Chroicocephalus ridibundus*;
- **brent goose** *Branta bernicula*;
- **bullfinch** *Pyrrhula pyrrhula*;
- **common tern** *Sterna hirundo*;
- **cormorant** *Phalacrocorax carbo*;
- **cuckoo** *Cuculus canorus*;
- **curlew** *Numenius arquata*;
- **dunnock** *Prunella modularis*;
- **goldfinch** *Carduelis carduelis*;
- **house sparrow** *Passer domesticus*;
- **kestrel** *Falco tinnunculus*;
- **lapwing** *Vanellus vanellus*;

- **puffin** *Fratercula arctica*;
- **redshank** *Tringa tetanus*;
- **rock pipit** *Anthus petrosus*;
- **sandwich tern** *Sterna sandvicensis*;
- **song thrush** *Turdus philomelos*;
- **starling** *Sturnus vulgaris*;
- **swallow** *Hirundo rustica*

Invertebrates

5.23 Cofnod provided 3 invertebrate records comprising 2 species of insect – butterfly which were either an Environment (Wales) Act 2016, Section 7 (S7) species, LBAP priority species, UK or Wales Red Data Book species (RD1(UK)/RD1(Wales) or locally important (LI) species within the listed area (e.g. LI[VC52]). There were three records of butterflies, two of **dingy skipper** *Erynnis tages* (LBAP & L7) 0.5km south at Beaumaris Cliff, where 10 adult dingy skippers were seen, two of which were observed mating and one **wall** *Lasiommata megera* (LBAP & L7) 1.17km south west at Beaumaris Meadow. The **dingy skipper** is found in warm open areas such as south-facing chalk and limestone downland, open hillsides, railway embankments, dunes, cliffs and abandoned quarries. It can also be found at the ends of woodland as well as in woodland clearings and rides. **Wall** butterflies are now found primarily in coastal areas, especially unimproved grassland, wasteland, cliff edges and hedgerows near to bare surfaces, including bare ground and, of course, walls for resting/basking. Records included the following species:

- **dingy skipper** *Erynnis tages* (RD1(UK)VU, S7, LBAP[CON, FLI, GWY]);
- **wall** *Lasiommata megera* (RD1(UK)NT, S7, LBAP [GWY])

Mammals

Brown hare

5.24 Cofnod provided one record of **brown hare** *Lepus europaeus* (S7 & LBAP) within the 2km search area. The hare is regularly seen south west of the site, 1.7km away in improved grassland to the east of The Mile road. Hares are most common in grassland habitats and at woodland edges, favouring a mosaic of arable fields, grasses and hedgerows. They graze on vegetation and the bark of young trees and bushes.

Hedgehog

- 5.25 Cofnod provided three records of **hedgehog** *Erinaceus europaeus* (S7 & LBAP) within the 2km search area, the nearest hedgehog siting being 1.14km south west, a live sighting in Coedydd Nant, Beaumaris. The remaining records were of road deaths, 2 adults dead on the road at Gallows Point and one dead on the B5109 near the Llanddona turn. Gardens and grassland provide habitat suitable for hedgehog and it is likely that the grasslands to the west will provide foraging habitat for any local hedgehogs. Hedgehogs have suffered a drastic decline in recent years; it is therefore recommended that they are considered in any development proposals.

Stoat

- 5.26 There are three records of **stoat** *Mustela erminea* (LBAP) within the 2km search area, the nearest record was 0.4km south south west on the coast at Beaumaris where it was observed running up and down a 10ft sea wall and foraging in the sea weed on the shore. The stoat is a small predator, with a long, low-slung body that makes it particularly well suited to hunting small rodents and rabbits. Its diet is also supplemented by birds, eggs, fruit and even earthworms when food is scarce. They are found in a variety of habitats and are known to live in any habitats at any altitude with sufficient ground cover and food, including grassland, heathland and moorland, farmland, orchards, coastal habitats, such as sand dunes and woodland. Stoats typically have a territory size of 0.2 – 0.4ha so the site would likely be part of a wider territory, but due to lack of cover is unlikely to be an important resource for stoats in the local area.
- 5.27 Cofnod provided one record of **polecat** *Mustela putorius* (LBAP) within the 2km search area, the polecat was observed as a road death at Fryars Bay, 1km south of the site on the B5109. Polecats are associated with urban areas including residential gardens, deciduous woodland, grassland, mixed woodland and arable land. They are found throughout Wales where valleys and farms are favoured habitats. The site does provide some suitable habitat for foraging polecat as they eat small mammals and birds, and rabbits, a major food source, were noted within the site. Polecats have territories that vary in size according to habitat and food availability. For males they have been measured at 16-500 ha, and for females about 25-375 ha, so a site this size would only be likely to be part of a wider territory. Polecat are not considered an ecological constraint for the development.

Plants

5.28 There are three records of plants within 2km from the study area that have a Red Data Book listing (RD1 Wales) or are listed as an Environment (Wales) Act 2016, Section 7 (S7) species. One species is also locally important within VC52 and that is **orange whitebeam** *Sorbus croceocarpa*, a record taken from the Anglesey rare plant register relating to a specimen growing on the coast almost equidistant between Beaumaris and Llanfaes. Other locally important plants recorded within the 2km search area include:

- **Fragrant crestwort** *Lophocolea fragrans* (RD1(Wales)LC, LI[VC49, VC50, VC52]);
- **Drooping thread-moss** *Bryum algovicum* (RD1(Wales)LC, LBAP[CON], LI[VC49, VC51]),
&
- **a moss** *Zygodon viridissimus* var. *stirtonii* (RD1(Wales)LC, LI[VC49, VC50]).

INVASIVE/NON-NATIVE SPECIES

5.29 Invasive, non-native species recorded within the 2km search area include **wireweed** *Sargassum muticum*, **an acorn barnacle** *Austrominius modestus*, **Japanese knotweed** *Fallopia japonica* and **harlequin ladybird** *Haronia axyridis* and **American mink** *Neovison vison*. The nearest records are for an acorn barnacle 63m to the east of the sea wall near Outfall 3 and a stand of **Japanese knotweed** 82m to the north east of Outfall 1.

GENERAL SITE DESCRIPTION - HABITATS

5.30 The outfall pipes that are being replaced all discharge from the sea defence wall or onto the beach at around mean high water (MHW) after being culverted under the B5109. The survey area comprises an area of semi-improved grassland with scattered and dense scrub and trees and a sand and shingle beach. Photographs of the outfalls are shown in **Appendix 1** and a habitat survey plan is illustrated on **Drawing 3**.

SEMI-IMPROVED GRASSLAND WITH TREES AND SCRUB

5.31 There is a small area of semi-improved grassland with scrub and trees (T1) between the beach and the B5109. Near the road the grass matrix typically includes abundant perennial rye-grass *Lolium perenne* with frequent common bent *Agrostis capillaris*, creeping bent *Agrostis stolonifera* and annual meadow-grass *Poa annua* with occasional cock's-foot *Dactylis glomerata* and common couch *Elytrigia repens*. False oat-grass *Arrhenatherum elatius* become frequent away from the road. Ivy *Hedera helix* was locally abundant, as was **Japanese**

knotweed, with a large stand across the whole width of the grassland towards the north. Hart's-tongue fern *Asplenium scolopendrium* was locally frequent along with yarrow *Achillea millefolium*, creeping cinquefoil *Potentilla reptans*, sea mayweed *Tripleurospermum maritimum* and perforate St John's-wort *Hypericum perforatum*. Frequent species include grass-leaved orache *Atriplex littoralis*, common knapweed *Centaurea nigra*, ribwort plantain *Plantago lanceolata*, upright hedge-parsley *Torilis japonica*, red valerian *Centranthus ruber*, Babington's orache *Atriplex glabriuscula* and sea beet *Beta vulgaris* ssp. *maritima*. Occasionally recorded species included herb Robert *Geranium robertianum* and creeping thistle *Cirsium arvense*, with rare species included daisy *Bellis perennis*, common restharrow *Ononis repens*, hogweed *Heracleum sphondylium* and groundsel *Senecio vulgaris*. On the seaward side of the grassland sea milkwort *Glaux maritima* was occasional. Scrub and trees included locally abundant bramble *Rubus fruticosus* agg., with several areas of dense bramble scrub, locally frequent ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus*, occasional elder *Sambucus nigra* with rare apple *Malus domestica* and hawthorn *Crataegus monogyna*.

SAND & SHINGLE BEACH

- 5.32 The beach at Llanfaes is sand and shingle beach (T2) typical of the area. Above mean high water springs (MHWS) the coastal shingle supports sea sandwort *Honckenya peploides*, sea beet, sea arrowgrass *Triglochin maritima* and Babington's orache were occasional and grass-leaved orache was rare. At around the mean high water level (MHW) on the sand and shingle beach channel wrack *Pelvetia caniculata* is locally frequent and gutweed *Ulva intestinalis* and bladder wrack *Fucus vesiculosus* are frequent and coral weed *Corallina officinalis* is rare. The area between high and low tide supports little life, as breaking waves constantly grind and pound the shingle. The concrete remains of Fryars slipway form a ladder of rockpools down the beach with bladder wrack and serrated wrack *Fucus serratus* locally frequent, dulce *Palmaria palmata* occasional and mermaid's tresses *Corda filum* rare and coral weed becoming more frequent further down the beach.

BOUNDARY FEATURES

- 5.33 The stone-built seawall runs along the upper littoral zone between the sand and shingle beach and the B5109.

FAUNA

- 5.34 Fauna recorded at the time of the survey included oystercatcher *Haematopus ostralegus*, herring gull *Larus argentatus*, moon jellyfish *Aurelia aurita*, common periwinkle *Littorina littorea*, common prawn *Palaemon serratus*, beadlet anemone *Actinia equina*, common limpet *Patella vulgata*, acorn barnacle *Semibalanus balanoides* and dog whelk *Nucella lapillus*.

6.0 SITE ASSESSMENT AND EVALUATION

STATUTORY & NON-STATUTORY SITES

6.1 There are seven statutory designated sites within 2km of the survey area, two of which are International sites of nature Conservation interest:

- **Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC** is designated for its coastal tidal and intertidal habitats.
- **Traeth Lafan SPA** is designated for its internationally important over wintering population of oystercatcher, breeding population of curlew and on passage population of great crested grebe.

6.2 There are also three sites of National nature conservation interest and two sites of local interest within 2km and the site lies within the Anglesey Area of Outstanding Natural Beauty. Sites within 2km include:

- **Glannau Penmon SSSI** is selected for its geological and marine biological features;
- **Baron Hill Park SSSI** comprises parkland with ancient trees;
- **Traeth Lafan SSSI** is selected as it has a large area with a range of intertidal habitats;
- **Anglesey AONB** is designated for its fine coastal landscapes/Heritage Coasts.
- **Traeth Lafan LNR** comprises a mix of shoreline habitats, and approximately 2,500 hectares of intertidal sand and mud flats which are exposed at low tide.

6.3 Outfalls 1 and 2 are located within or very close to the **Menai Strait & Conway Bay SAC**, just above MHWS. None of the qualifying habitats within the SAC are represented at the point where the outfalls discharge. Categories of operations which may cause deterioration of natural habitats, or of the habitats that support species, or the disturbance of species (either alone or in combination) are as follows:

- Physical loss
- Physical damage
- Non-physical disturbance
- Toxic contamination
- Non-toxic contamination
- Biological disturbance.

- 6.4 The small-scale operation to clear beach deposits and debris from the mouth of the outfall pipes will not result in the occurrence of any of the potentially damaging operations listed above. In summary it is considered that no likely significant effect is anticipated on the SAC or any of its constituent habitats as a result of the scheduled maintenance.
- 6.5 **Traeth Lafan/Lavan Sands SPA** lies 0.47km to the south east of the survey area. The site qualifies for its over wintering population of oystercatcher, breeding curlew and great crested grebe on passage. Oystercatcher were noted flying over the site during the site walkover.
- 6.6 **Oystercatcher** The oystercatcher is a large, stocky, black and white wading bird. Because it eats cockles, the population is vulnerable if cockle beds are overexploited. They breed on almost all UK coasts. During the last 50 years, more birds have started breeding inland. Most UK birds spend the winter on the coast where they are joined on the east coast by birds from Norway.
- 6.7 The curlew is the largest European wading bird, instantly recognisable on winter estuaries or summer moors by its long, downcurved bill, brown upperparts, long legs and evocative call. It feeds on worms, shellfish and shrimps.
- 6.8 Great crested grebe are diving birds which feed mainly on fish, but also small crustaceans, insects, small frogs and newts. The sand and shingle beach near to the road ~MHWS is unlikely to be an important area for feeding or roosting oystercatcher, curlew or great crested grebe but the intertidal area is likely to be used occasionally for foraging or loafing, with a preference being for the sand flats and mudflats exposed at low tide, in which case birds are likely to be habituated to the road noise and traffic from the B5109. It is therefore unlikely that occasional, maintenance of the outfalls, of short duration would have a significant impact on the features of the SPA.
- 6.9 **Liverpool Bay/Bae Lerpwl SPA** lies 3.45km to the east of the outfalls on the coast at Llanfaes. Advice from Countryside Council for Wales, Natural England and the Welsh Government (2012)³ indicates that categories of operations which may cause a deterioration of natural

³ Countryside Council for Wales & Natural England (2012). Liverpool Bay / Bae Lerpwl Special Protection Area: Advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended). Version 6.5.

habitats of the habitats of species, or the disturbance of species (either alone or in combination) within the Liverpool Bay/ Bae Lerpwl SPA are as follows:

- Physical loss
- Physical damage
- Non-physical disturbance
- Toxic contamination
- Non-toxic contamination
- Biological disturbance.

6.10 In the UK, wintering **red-throated divers** are associated with shallow (between 0-20m deep, less frequently in depths of around 30m) inshore waters, often occurring within sandy bays, firths and sea lochs, although open coastline is frequently used. Supporting habitats include benthic habitats such as sandbanks. As benthic feeders, **common scoter** are closely associated with the availability and condition of their shallow seabed habitat, particularly benthic communities with sandy sediments. A summary of the vulnerability of the interest features of the SPA to various categories of operations is summarised below in **Table 7**.

Table 7: Summary vulnerability assessment of ecological interest features of the SPA

Categories of operation	Vulnerability assessment per ecological interest feature		
	Red-throated diver - <i>Gavia stellata</i>	Common scoter - <i>Melanitta nigra</i>	Non-breeding assemblage of over 20,000 waterbirds
Physical loss of supporting habitat	Moderate for habitat removal and low for habitat smothering	Moderate for both habitat removal and habitat smothering	Moderate for both habitat removal and habitat smothering
Physical damage to supporting habitat	Low for siltation, abrasion and selective abstraction.	Vulnerability to physical damage of associated habitats is considered to be low for siltation and abrasion and moderate for selective abstraction.	Vulnerability to physical damage of associated habitats is considered to be low for siltation and abrasion and moderate for selective abstraction.
Non-physical disturbance	High to non-physical disturbance	High to non-physical disturbance	High to non-physical disturbance
Toxic contamination	Low for toxic contamination with synthetic compounds and moderate to toxic contamination with	Low for toxic contamination with synthetic compounds and moderate to toxic contamination with	Low for toxic contamination with synthetic compounds and moderate to toxic contamination with

	non-synthetic compounds	non-synthetic compounds	non-synthetic compounds
Non-toxic contamination	The vulnerability of the prey species of red-throated divers to non-toxic contamination is considered low .	The vulnerability of the prey species of common scoter to non-toxic contamination is considered low .	The vulnerability of the prey species of waterbird assemblages to non-toxic contamination is considered low .
Biological disturbance	Ranging from low (microbial pathogens, non-native species introductions and selective extraction of prey) to moderate (human induced mortality).	Ranging from low (microbial pathogens, non-native species introductions), to moderate (human induced mortality) and high (selective extraction of prey)	Ranging from low (microbial pathogens, non-native species introductions), to moderate (human induced mortality) and high (selective extraction of prey)

6.11 The maintenance works to clear debris from the outfall pipes is very unlikely to result in the occurrence of any of the potentially damaging operations, as summarised in **Table 7**. It is considered that no likely significant effect is anticipated on the SPA or any of its constituent ecological interest features.

6.12 Non-statutory designated sites within 2km include three Sites of Geodiversity interest (RIGS) and two wildlife sites (WS)

- **Beaumaris Cliff & Drumlin RIGS;**
- **Beaumaris (Salop) RIGS;**
- **Aberlleiniog RIGS;**
- **Coedydd Ystad Baron Hill WS;**
- **Dolydd Leiniog WS;**

6.13 There are a further 32 statutory designated sites within 10km of the survey area, five of which are International sites of nature Conservation interest; **Coedydd Aber SAC** and **Eryri/Snowdonia SAC**, **Liverpool Bay pSPA**, **Anglesey Terns SPA** and **Puffin Island SPA**, along with 27 sites of National Conservation Interest.

- 6.14 No significant impacts on these statutory and non-statutory sites is expected as a result of the maintenance scheme.

PROTECTED AND PRIORITY HABITATS & SPECIES

Plants/Habitats

- 6.15 There are no plant species protected under Schedule 8 of the Wildlife & Countryside Act (1981) a (as amended) recorded within the survey area.
- 6.16 There is one potential UK BAP, Environment (Wales) Act 2016 Section 7 priority habitat within or immediately adjacent to the survey area:
- **Coastal vegetated shingle** - Maddock (2008)⁴ states that shingle is defined as sediment with particle sizes in the range 2–200mm. It is a globally restricted coastal sediment type with few occurrences outside north-west Europe, Japan and New Zealand. Shingle beaches are widely distributed round the coast of the UK, where they develop in high energy environments. In England and Wales it is estimated that 30% of the coastline is fringed by shingle. However, most of this length consists of simple fringing beaches within the reach of storm waves, where the shingle remains mobile and vegetation is restricted to temporary and mobile strandline communities. Shingle structures take the form either of spits, barriers or barrier islands formed by longshore drift, or of cusped forelands where a series of parallel ridges piles up against the coastline. Some shingle bars formed in early post-glacial times are now partly covered by sand dunes as a result of rising sea levels leading to increased deposition of sand. The origin of coastal shingle varies according to location. In southern England, much of it is composed of flint eroded out of chalk cliffs. Shingle deposits of Ice Age origin lying on the sea bed may be reworked by wave action and re-deposited or moved by longshore drift along the coast. In northern and western Britain, shingle may derive from deposits transported to the coast by rivers or glacial outwash. Shingle structures are of geomorphological interest. The vegetation communities of shingle features depend on the amount of finer materials mixed in with the shingle, and on the hydrological regime. Classic pioneer species on the seaward edge include sea kale

⁴ Maddock, A. (2008) ed. UK Biodiversity Action Plan Priority Habitat Descriptions Coastal Vegetated Shingle From: UK Biodiversity Action Plan; Priority Habitat Descriptions.

Crambe maritima, sea pea *Lathyrus japonicus*, Babington's orache *Atriplex glabriuscula*, sea beet *Beta vulgaris*, and sea campion *Silene uniflora*; which can withstand exposure to salt spray and some degree of burial or erosion. Further from the shore, where conditions are more stable, mixed communities develop, leading to mature grassland, lowland heath, moss and lichen communities, or even scrub. Some of these communities appear to be specific to shingle, and some are only known from Dungeness. On the parallel ridges of cusped forelands, patterned vegetation develops, due to the differing particle size and hydrology. Some shingle sites contain natural hollows which develop wetland communities, and similar vegetation may develop as a result of gravel extraction. Shingle structures may support breeding birds including gulls, waders and terns. Diverse invertebrate communities are found on coastal shingle, with some species restricted to shingle habitats. Shingle structures sufficiently stable to support perennial vegetation are a comparatively rare feature even in the UK. The major vegetated shingle structures surveyed in 1987–1991 by Sneddon and Randall totalled some 5,000ha in England, 700ha in Scotland, and 100ha in Wales. Dungeness, in southern England, is by far the largest site, with over 2,000ha of shingle, and there are only five other structures over 100ha in extent in the UK. The main concentrations of vegetated shingle occur in East Anglia and on the English Channel coast, in north-east Scotland, and in north-west England and south-west Scotland. The Welsh coast has a number of small sites. This habitat is poorly represented in Northern Ireland, where the key site is Ballyquintin in County Down.

- 6.17 There is a shingle ridge along the strand line at Llanfaes that is vegetated by several plant species characteristic of coastal vegetated shingle and would be a small area of priority habitat.

Protected & priority species

- 6.18 There are records in the local area (i.e. within the 2km search area), but no suitable habitat where the outfall pipes discharge that would be suitable for **bats** (other than occasional foraging), **red squirrel**, **slow-worm**, **common toad**, **common frog**, **palmate newt**, **terrestrial invertebrates**, **brown hare**, **hedgehog**, **stoat** or **polecat**. None of these species are considered an ecological constraint for the scheme.

- 6.19 No birds protected under Schedule 1 part 1 of the Wildlife & Countryside Act (1981) as amended, were recorded within the survey area during the extended phase 1 habitat survey. Cofnod provided 90 bird records comprising 38 bird species within a 2km radius of the study area. Two of these species are given additional protection under schedule 1 part 1 of the Wildlife and Countryside Act 1981 (as amended); **scaup** and **great northern diver**. **Scaup** are diving ducks and their preferred habitats are Tundra lakes and on migration open lakes and coastal habitats where they feed on small crabs and molluscs, particularly mussels. **Great northern divers** can be found around coasts where it is usually solitary, often farther out to sea than other divers. Occasionally seen inland on reservoirs. Largest numbers off the Northern and Western Isles of Scotland and in addition to Anglesey they can also be found on the Cornish coast. Great northern divers eat fish and crustaceans, including crayfish, shrimp, along with leeches and some aquatic vegetation.
- 6.20 Cofnod held records of 21 priority bird species within the 2km search area, of these birds 13 species were likely to frequent the coastal habitats; **arctic tern, black guillemot, black-headed gull, brent goose, common tern, cormorant, curlew, lapwing, herring gull, puffin, redshank, rock pipit** and **sandwich tern**.
- 6.21 The sand and shingle beach where the outfall pipes discharge are located is unlikely to be an important resource for any of these species at low tide when the maintenance works are undertaken. The upper limits of the sand and shingle beach is unlikely to be an important habitat for foraging sea birds and diving ducks, they will largely forage on the intertidal areas and habitats below MHWS, on mud and sand flats with mussel beds and in rock pools. The outfalls are adjacent to a busy road so birds that use the coast at this point are likely to be habituated to the presence of people and vehicular movements. It is unlikely that a vehicle such as a small digger and a small number of maintenance personnel working for such a short duration would cause a significant increase in bird disturbance.

Invasive non-native species

- 6.22 **Japanese knotweed** is recorded in two large stands within the semi-improved grassland.

7.0 SUMMARY & RECOMMENDATIONS

SUMMARY

- 7.1 Applied Ecological Services Ltd. was commissioned to undertake a Phase 1 Habitat Survey including a protected species walkover assessment at an area of land at the coast at Llanfaes, Anglesey, Wales, on behalf of Cadarn Consulting Engineers. The purpose of the survey was to map and identify habitats and species that are present, or potentially present within the site boundary and highlight areas for further investigation that may provide a constraint to development. This report presents an assessment of these potential ecological constraints to development based on the results of the survey, along with recommendations for further, more detailed surveys to be undertaken, as appropriate.
- 7.2 The study area includes four outfall pipes that discharge onto the upper shore to the north east of Beaumaris Pier between the Pier and Beaumaris Castle. The proposed maintenance area comprises the habitat immediately surrounding four outfall pipes located on the upper shore at around the Mean High Water (MHW) level. The site is located at OS grid reference SH 60825 76045 (approximate central point).
- 7.3 The development proposals are for the regular maintenance of the outfall pipes over the next 5 years by using a machine to clear out any build-up of debris in front of the outlets as and when required.
- 7.4 There are seven statutory designated sites within 2km of the survey area, two of which are International sites of nature Conservation interest:
- **Y Fenai a Bae Conwy/Menai Strait and Conwy Bay SAC** is designated for its coastal tidal and intertidal habitats.
 - **Traeth Lafan** SPA is designated for its internationally important over wintering population of oystercatcher, breeding population of curlew and on passage population of great crested grebe.
- 7.5 There are also three sites of National nature conservation interest and two sites of local interest within 2km and the site lies within the **Anglesey Area of Outstanding Natural**

Beauty. Sites within 2km include **Glannau Penmon SSSI, Baron Hill Park SSSI, Traeth Lafan SSSI, Anglesey AONB and Traeth Lafan LNR.**

- 7.6 Non-statutory designated sites within 2km include three Sites of Geodiversity interest (RIGS) and two wildlife sites (WS): **Beaumaris Cliff & Drumlin RIGS; Beaumaris (Salop) RIGS; Aberlleiniog RIGS; Coedydd Ystad Baron Hill WS; Dolydd Leiniog WS** and 24 ancient woodland sites.
- 7.7 There are is one Environment (Wales) Act (2016) Section 7 habitats, UK BAP or Anglesey BAP Priority habitat within the study area.
- **Coastal vegetated shingle.**
- 7.8 The habitats surrounding the outfall pipes have the potential to support the following protected and priority species:
- **bats** (occasional foraging);
 - **arctic tern;**
 - **black guillemot;**
 - **black-headed gull;**
 - **brent goose;**
 - **common tern;**
 - **cormorant;**
 - **curlew;**
 - **lapwing;**
 - **herring gull;**
 - **puffin;**
 - **redshank;**
 - **rock pipit, and**
 - **sandwich tern.**
- 7.9 No significant impact is expected on any of the statutory and non-statutory sites of nature conservation interest as a result of the proposed maintenance works.

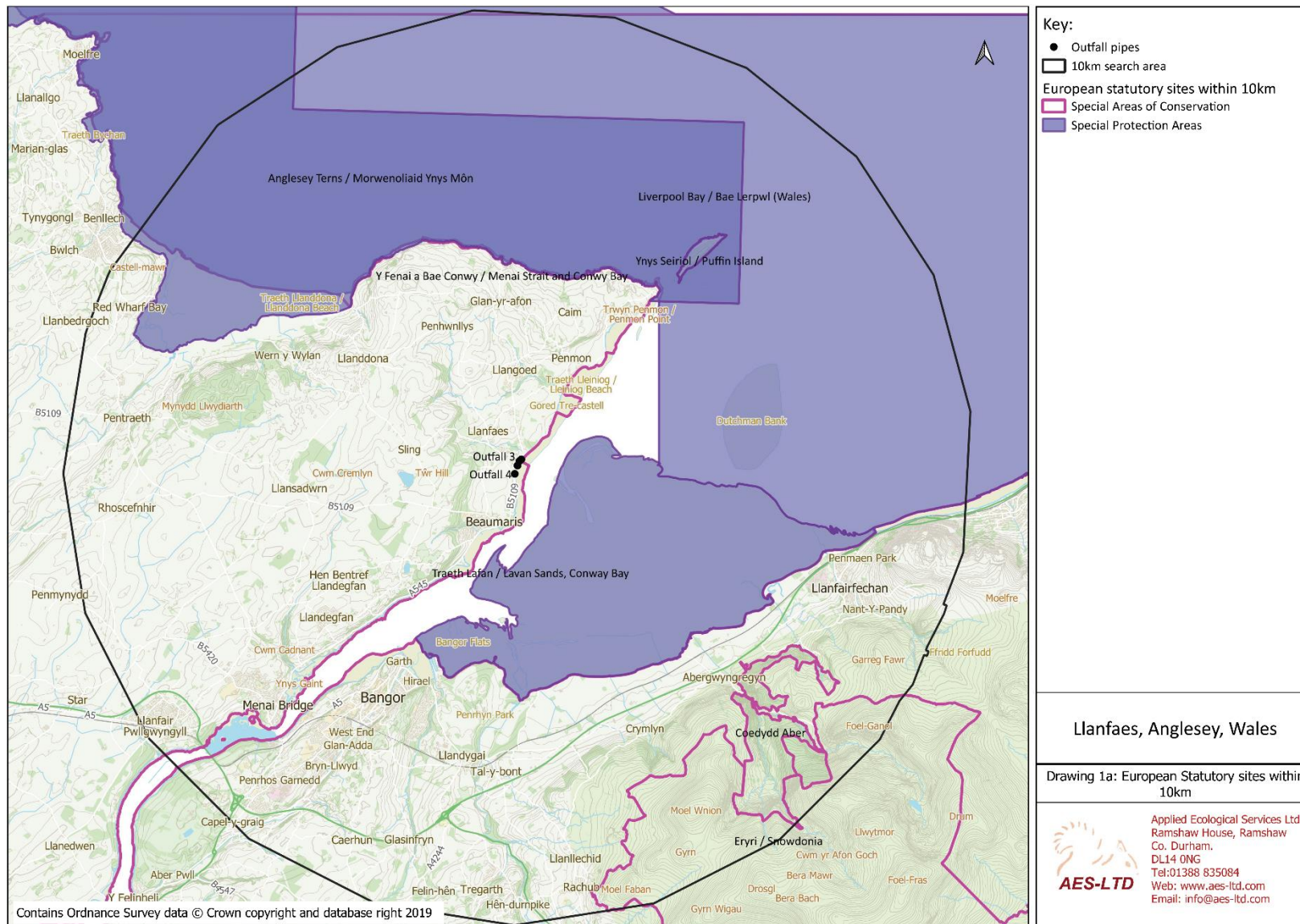
RECOMMENDATIONS

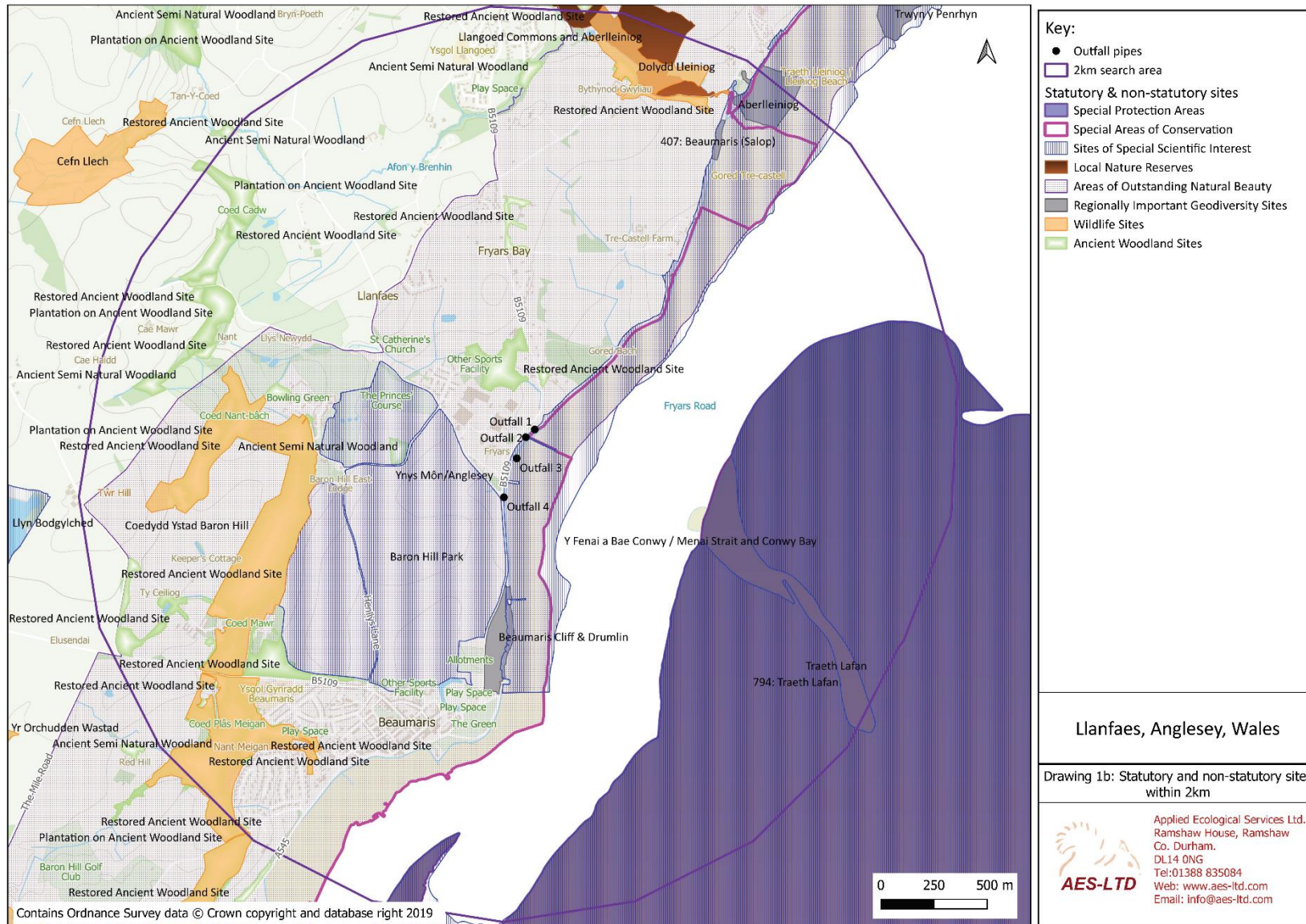
- 7.10 **It is the client's responsibility to make contact with the Marine Management Organisation (MMO) and Natural Resources Wales in respect of the need for Marine Licences / Permits. The following paragraphs may be used as an information guide only.**
- 7.11 Due to the study area being located within Menai Strait and Conway Bay SAC it is recommended that any maintenance works are carried out at low tide using the smallest machine that is fit for purpose for the job.
- 7.12 A Stage 1 Habitat Regulations Assessment may be required to determine the likelihood of there being a likely significant effect on features within Menai Strait and Conway Bay SAC and the surrounding sites of European Conservation Interest due to the works, but it is unlikely that these small-scale, localised works of such short duration will have a likely significant effect. It is recommended that the client contacts Natural Resources Wales for a screening opinion.
- 7.13 The Marine and Coastal Access Act (2009) requires licences to undertake certain activities within the UK marine area. The Marine Management Organisation (MMO) is responsible for marine licensing around the UK coast including Northern Ireland offshore waters.
- 7.14 Exemptions provide proportionate regulation of the marine environment. They remove the need for a marine licence for certain activities in certain circumstances. If you intend to rely on an exemption you must make sure that you meet the relevant qualifying criteria and conditions. It is recommended that the MMO is notified regarding any activities in the marine area.
- 7.15 Enforcement action may be taken if it is later determined that the activity, or the circumstances in which it was carried out, is not consistent with the terms of the relevant exemption.

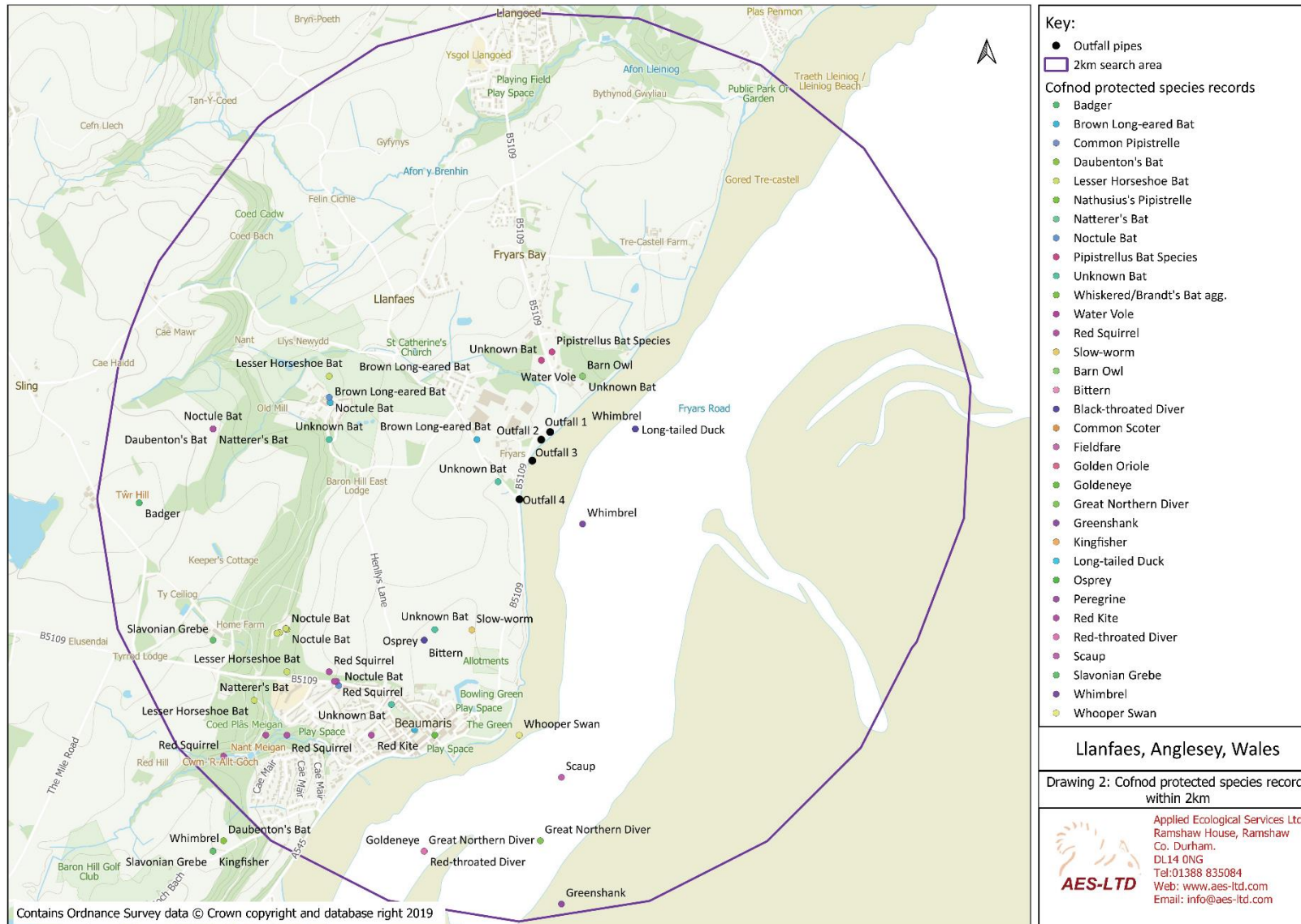
- 7.16 A MMO Marine Licence Requirement Check indicated that the proposed maintenance activity did not require a MMO marine licence, but that the works may require a marine licence from the relevant devolved administration, i.e. Natural Resources Wales.
- 7.17 NRW state that A marine licence is required when any licensable activity as defined in section 66 of the Marine and Coastal Access Act 2009 is undertaken within the marine licensable area.
- 7.18 In broad terms, a marine licence is required if one or more of the activities are to be undertaken in the marine licensable area:
- Any deposit or removal of material or substance, using a vehicle or vessel. Deposits or removals by hand are not marine licensable activities
 - Construction, alteration or improvement works (including works hanging/suspended over the marine licensable area and works beneath the sea bed e.g. tunnels, bridges and piers)
 - Scuttling vessels or floating containers
 - Dredging
 - Incineration of objects
 - Deposit and use of explosives
- 7.19 NRW Permitting Service considers all applications for activities in the marine environment which require a marine licence. The range of activities which require a licence is very broad, from very large complex works to smaller, low risk works. In order to ensure that applications are treated in a proportionate way, marine licence applications are designated as Band 1, Band 2, or Band 3 activities. This guidance addresses Band 1 activities, which are considered low impact or low risk activities, and this is the category these maintenance works fall under.
- 7.20 The guidance first addresses what the requirements are for activities to be considered as Band 1 applications, and secondly explains circumstances under which an additional method statement to describe the activity would be required. A method statement is required for certain types of activity which may have the potential to be higher risk, and for activities proposed near to certain sensitive habitats and species.
- 7.21 To qualify as a **Band 1 application**, the activity should be low potential impact, and low risk. To qualify as low risk, the activity will not:

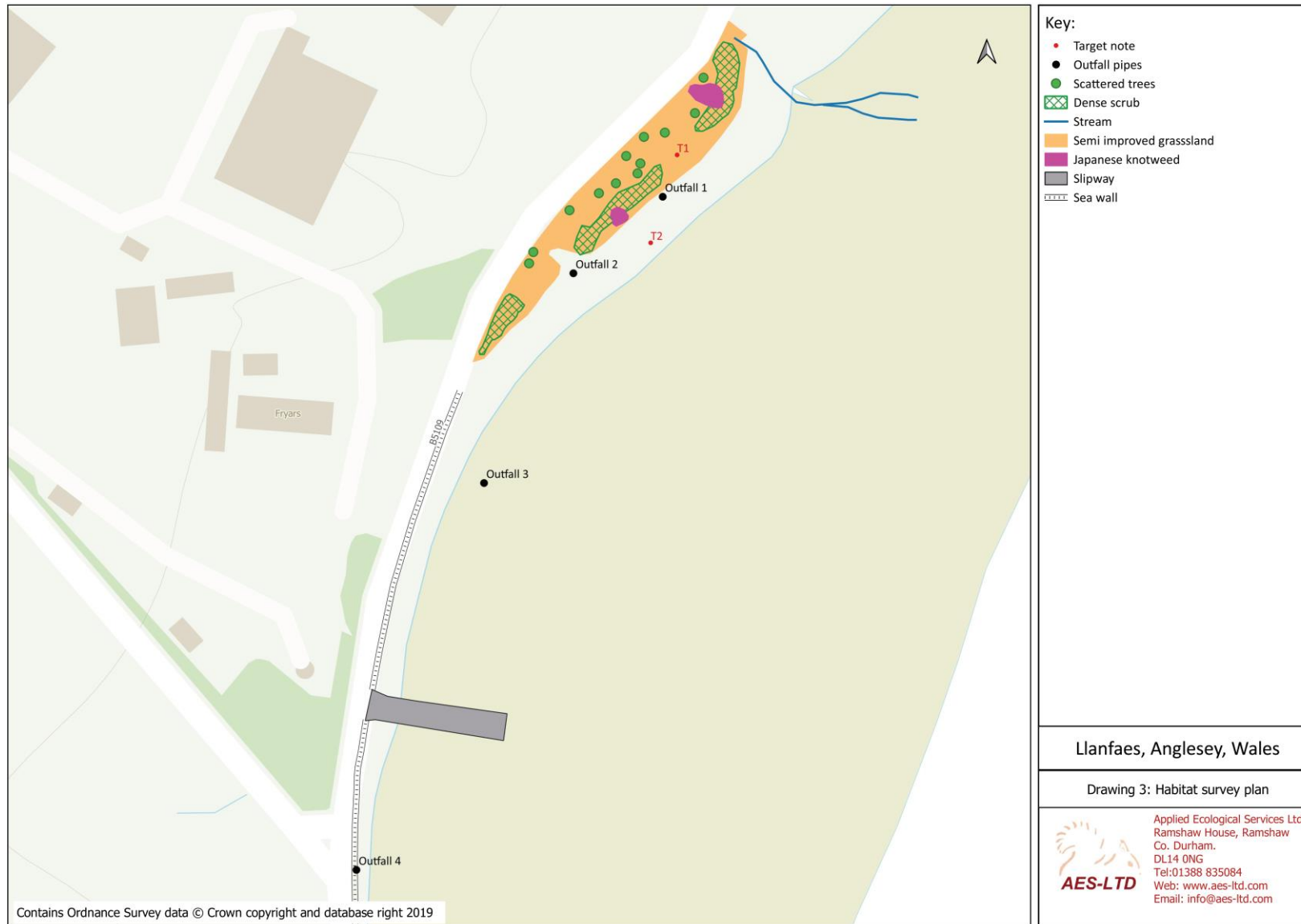
- have a negative impact on protected or sensitive areas, species or resources
- occur in an area used for military defence purposes
- occur in an area hosting cables or pipelines
- generate unacceptable levels of noise
- cause detrimental effects in combination with other activities
- have a significant impact on the environment
- pose a navigational hazard or a danger to others

- 7.22 It will have permission from the local harbour authority (if the activity is within a harbour authority limits).
- 7.23 It must also be an eligible activity. Eligible activities include beach management activities and these maintenance works would be considered “***clearance/removal of beach material in and around outfalls to aid drainage***”.
- 7.24 NRW state that all beach management activity applications must be accompanied by a method statement.
- 7.25 It is therefore recommended that a method statement for the works is submitted to NRW along with the Band 1 licence application. Band 1 applications are charged at £600 per application. Application forms can be downloaded from the NRW website <https://naturalresources.wales/permits-and-permissions/marine-licensing/licence-application-forms/?lang=en> and completed forms returned to permitreceiptcentre@naturalresourceswales.gov.uk.
- 7.26 It is strongly recommended that as part of the maintenance works that the stands of **Japanese knotweed** are treated. It is important to eradicate it to stop vehicles from spreading this Schedule 9 plant in the wild when accessing the site to undertake maintenance works.









APPENDIX 1 PHOTOGRAPHS



Photograph 1 Looking landward towards outfalls 1 and 2.



Photograph 2 Outfall 3 and sand and shingle beach (T2).



Photograph 3 Outfall 4.



Photograph 4 Semi-improved grassland with scattered trees and areas of scrub (T1).



Marine
Management
Organisation

Marine Management Organisation - Marine Licence requirement check

Introduction

The purpose of the MMO marine licence requirement checker tool is to assist prospective applicants to determine whether a marine licence is required in order to carry out an activity. The outcome produced is based on the answers provided. Prospective applicants are responsible for ensuring that the information supplied is correct. Providing false or misleading information may result in enforcement action being taken.

Date of check

18 Dec 2020

Summary

Based on the information provided the activity does not require a marine licence from the MMO but you may require a marine licence from the relevant devolved administration:

The marine licensing authority for Welsh waters is [Natural Resources Wales](#).

The marine licensing authority for Scottish waters is [Marine Scotland](#).

The marine licensing authority for Northern Irish inshore waters is the [Department for Agriculture, Environment and Rural Affairs](#).

Activities in and around the 'Sea' may require other consents, irrespective of whether they need a marine licence.

Find out more about [other consents](#).

Answers

Where will the activity take place?

In the 'Sea'

In which waters will the activity take place?

In other UK waters