



BROCKHOLE STREAM FLOOD ALLEVIATION SCHEME – CAR PARK FLOOD WALL AND NEW CULVERT TO BEACH OUTFALL

Notice

This document and its contents have been prepared and are intended solely as information for Swansea Council and use in relation to the Brockhole Stream Flood Alleviation Scheme.

AtkinsRéalis UK Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

The information which AtkinsRéalis has provided has been prepared by an environmental specialist in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management. AtkinsRéalis confirms that the opinions expressed are our true and professional opinions.

This document has 72 pages including the cover.

Document history

Document title: Preliminary Ecological Appraisal for Permitted Development

Document reference: 5122859-ATK-XX-GEN-RP-EN-00004

Document reference: Revision	Purpose description	Surveyors	Originated	Checked	Reviewed	Authorised	Date
1.0	Draft for client comment	CG & MC	MC	CG	SC	DMH	01/06/2026

Client signoff

Client	Swansea Council
Project	BROCKHOLE STREAM FLOOD ALLEVIATION SCHEME – CAR PARK FLOOD WALL AND NEW CULVERT TO BEACH OUTFALL
Job number	100098307
Client signature/date	

PEA for Brockhole Stream Flood Alleviation Scheme – Car Park Wall and New Culvert to Beach Outfall
5122859-ATK-XX-GEN-RP-EN-00004



Contents

Executive Summary	5
INTRODUCTION	8
1. Introduction	9
1.1 Terms of Reference	9
1.2 The Site	9
1.3 The Scheme	9
SCOPE OF THE ASSESSMENT	12
2. Scope of the Assessment	13
RESULTS	14
3. Results	15
3.1 Opportunities for Biodiversity Enhancements	34
3.2 Report Validity	34
Appendix A. Figures	36
A.1 UKHab Survey Map	36
A.2 Constraints Map	38
A.3 The Woodman Car Park Plan (5122859_60-ATK-XX-ZZ-DR-C-00030)	42
A.4 Proposed Outfall at Swansea Bay (5122859_60-ATK-XX-ZZ-DR-C-0034)	44
Appendix B. Methods	46
B.1 Desk Study	46
B.2 Field Surveys	47
B.2.1 Surveyor Competencies	47
B.2.2 Habitats	47
B.2.3 Protected and Priority Species	48
B.3 Limitations	49
Appendix C. Target Notes	51
Appendix D. Photographs	53
Appendix E. Legislation	59

Tables

Table 3-1 - Summary of Ecological Constraints and Recommendations	15
---	----



Table 3-2 - Data search areas	46
Table 3. Summary of relevant species legislation in Wales	59
Table 4. Summary of relevant designated site legislation in Wales	67
Table 5. Summary of relevant habitat and species legislation in Wales	69



Executive Summary

Report purpose	The aims of this report are to: Identify key ecological constraints to the development; Identify if additional ecological surveys are required to inform an ecological impact assessment; and Identify avoidance, mitigation, compensation and enhancement measures.
Proposed Scheme	The Scheme comprises the proposed installation of a flood defence wall and dualling of an existing culvert which carries the Brockhole Stream, located in Blackpill, Swansea. These works are associated with the Brockhole Stream Flood Alleviation Scheme (FAS).
Desk studies and field surveys	A desk study was undertaken on 20/02/2026, and involved a data search request to the South East Wales Biodiversity Records Centre (SEWBRc). A Preliminary Ecological Appraisal (PEA) of the Site was undertaken on 23/02/2026. This involved a UK Habitat Classification survey and an assessment of the possible presence of protected or priority species, including a single snapshot winter bird survey. A Ground Level Tree Assessment (GLTA) of trees within the Site was also undertaken.
Ecological features	The Blackpill, Swansea Site of Special Scientific Interest (SSSI), situated within Swansea Bay, is located adjacent to the Site at its nearest point, where the new culvert outfall is proposed. This area also contains the Swansea Bay Site of Importance for Nature Conservation (SINC). Areas which may qualify as habitats of principal importance under Section 7 of the Environment (Wales) Act 2016; coastal sand dunes and intertidal mudflats, were identified within and adjacent to the Site. The habitats recorded within the Site comprised developed land; sealed surface, other broadleaved woodland, mixed scrub, ornamental hedgerow, line of trees, modified grassland, built linear features and sand dunes. Protected and priority animal species which may be impacted by the proposed works include bats, birds (breeding, wintering and passage), great crested newts, reptiles, badgers and fish. Protected and priority plant species, including bluebell, may also be present within the Site. Several stands of bamboo were recorded around the car park and montbretia is known to be present along the Brockhole Stream within the Site. Montbretia is an invasive non-native species listed under Schedule 9 of the Wildlife and Countryside

PEA for Brockhole Stream Flood
Alleviation Scheme – Car Park Wall
and New Culvert to Beach Outfall
5122859-ATK-XX-GEN-RP-EN-
00004



Act 1981 (as amended). While bamboo is not officially listed in legislation, this species can be considered an invasive non-native.

**Avoidance, mitigation
and compensation
measures**

As the Proposed Scheme may impact the SSSI, it is recommended that Natural Resources Wales (NRW) be notified and asked for assent prior to works commencing. It is understood that this will be covered within a Marine Licence application.

It is recommended that works to the existing culvert outfall are undertaken outside of the overwintering bird period (November to March) where possible. If works during this period cannot be avoided, then appropriate mitigation measures should be implemented to minimise disturbance impacts to overwintering birds within the SSSI.

Relevant best practice guidelines and pollution prevention measures should be exercised when working near the Brockhole Stream and the Swansea Bay SINC.

It is recommended that works within sand dunes habitat and adjacent to intertidal mudflats are avoided or minimised where possible. It is understood that the area of sand dunes adjacent to the existing culvert outfall will be re-planted following construction, with the composition of plant species to be agreed with the Swansea Council ecology team.

Measures to protect trees within and immediately adjacent the Site should be implemented throughout the works. Tree felling and vegetation clearance works should be avoided or minimised where possible. If any trees with TPOs require removal to facilitate the works, then permission must first be obtained from Swansea Council.

Any works within the core bird nesting season (01 March to 31 August) will require an inspection of vegetation to be cleared for nesting birds by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any potential Schedule 1 bird species are observed nesting within the Site, works should halt and an ornithologist should be consulted.

It is recommended that a suitably qualified Ecological Clerk of Works (ECoW) with ornithological experience be employed throughout the works to advise on potential impacts to wading birds, observe bird behaviour during the works, and to implement appropriate mitigation measures where necessary. If assemblages of wading birds are observed being disturbed by construction activities during winter, even with mitigation measures in place, the ECoW may halt works temporarily until the birds move further away.

Prior to commencement of works, a Precautionary Method of Working (PMW) should be produced detailing how works can be undertaken in a lawful manner to avoid harm to great crested newts and reptiles.

General construction safeguards should be implemented to protect badger, otter and other mammals which may enter the Site.

PEA for Brockhole Stream Flood
Alleviation Scheme – Car Park Wall
and New Culvert to Beach Outfall
5122859-ATK-XX-GEN-RP-EN-
00004



It is recommended that any soil excavated from the woodland which may contain bluebell bulbs is retained and restored following the works. Additionally, any clearance of sand dune habitat should be avoided or minimised where possible, to avoid impacting priority plant species such as sea stock.

Biosecurity measures must be implemented throughout the construction phase to avoid the spread of non-native invasive plants which are present within the Site.

Recommendations for further survey

Should any trees categorised as FAR require removal, these should be subject to an additional GLTA or aerial inspection survey as required to determine their suitability. This includes trees in the northern section of woodland to the north of the pub car park which could not be fully assessed.

Should any trees categorised as PRF-I require removal, these should be inspected by a bat licensed ecologist. If no evidence of roosting bats is identified, the tree will then be soft-felled following a PMW under an ecological watching brief.

Should any trees categorised as PRF-M require removal, these should be subject to three aerial inspection surveys (or dusk emergence surveys using Night Vision Aids) between May and September, with at least two surveys taking place between May and August.

Opportunities for biodiversity enhancements

Creation of log and brash piles could be created in the surrounding areas around the Site to provide suitable habitat and refugia.

Removal of invasive non-native species such as bamboo and montbretia from around the pub car park and the planting/seeding of native species.

Planting of flowers, shrubs and trees that provide nectar, pollen and food for bees and other pollinators throughout the year.

Installation of bird and bat boxes in suitable retained habitat.

Report Validity

In the event of scope or programme changes or if works do not commence within 12 months of the date of this report then updates to the surveys may be required to ensure the validity of the data, as per Chartered Institute of Ecology and Environmental Management guidance¹.

¹ CIEEM (2019) *Advice Note on the Lifespan of Ecological Reports and Surveys*.

INTRODUCTION

1. Introduction

1.1 Terms of Reference

AtkinsRéalis UK Limited was commissioned by Swansea Council to undertake a Preliminary Ecological Appraisal (PEA) in connection with the proposed installation of a flood defence wall and dualling of an existing culvert which carries the Brockhole Stream (hereafter referred to as the Proposed Scheme). These works are associated with the proposed Brockhole Stream Flood Alleviation Scheme (FAS). The proposed FAS includes a series of integrated works designed to provide flood protection and to improve conveyance capacity to reduce flood risk throughout the Brockhole Stream catchment (between Clyne Gardens and Mumbles Road).

The overall scheme involves improvements within Clyne Gardens, Woodman Lane and the upstream channel, which have already received planning consent from Swansea Council. This report is only focused on additional works which are not considered to require planning permission, comprising the proposed flood defence wall installation and culvert dualling works, as shown in [Appendix A](#).

The Proposed Scheme is located in Blackpill, Swansea as shown in [Appendix A](#) (hereafter referred to as the Site). This report has been undertaken with reference to current good practice and provides an initial appraisal of any likely ecological constraints upon designated sites, protected species and other features of ecological interest. Recommendations are provided to avoid, mitigate, or compensate for damage and disturbance to habitats and species and where required further ecological surveys are advised.

1.2 The Site

The Site is located along Mumbles Road (A4067) in Blackpill, Swansea. The extent of the Site includes the car park and garden of The Woodman pub (Ordnance Survey Grid Reference: SS 61828 90525), along with a section of the Swansea Bay promenade and beach, where an existing culvert outfall is located (SS 61951 90511).

The surrounding area is largely suburban residential, with amenity parks present along the promenade. The Brockhole Stream flows through Clyne Gardens, a wooded botanical park, located adjacent west of the Site. The watercourse flows east along the southern boundary of The Woodman pub car park and is then culverted beneath Mumbles Road and the promenade, before emerging from an existing outfall on Swansea Bay beach.

1.3 The Scheme

The Brockhole Stream FAS will involve engineering works to the Brockhole Stream and associated culverts, in an effort to reduce the risk of flooding by facilitating maintenance and increasing the carrying capacity of the watercourse. Planning consent for the Brockhole Stream FAS was granted in April 2024, following the completion of an Ecological Impact Assessment (EcIA) by TACP². Additional works in association with the FAS have since been proposed which are expected to be carried out under permitted development. This PEA focuses solely on the additional works and does not consider the other aspects of the overall scheme which have received planning consent.

² TACP (2022) Brockhole Stream Swansea Updated Ecological Appraisal.

The proposed works which are the subject of this PEA will involve the installation of a flood defence wall around The Woodman pub car park. The removal of some trees and tree stumps to the north of the car park is anticipated to be required to facilitate the works. A footpath will be installed to the north of the car park boundary, to provide access to a lane at the rear of a fishing supplies shop.

The installation of a new culvert is also proposed, which will run alongside the existing Mumbles Road culvert. The new culvert will be cored through the existing sea wall, while the existing channel will be dredged and widened to accommodate the additional culvert. A number of 1m x 1m x 1m block stones will be installed adjacent to the culvert outfall to formalise the channel.

The details of the Proposed Scheme, as they are currently understood, are shown within the Scheme Drawings in [Appendix A](#).

A construction programme is not available at present as a contractor has not yet been procured, however the works are anticipated to commence in the winter of 2026/27. The works will be multi-phased, with Phase 1 comprising the new culvert works and Phase 2 comprising the new flood defence works. Phases 1 and 2 combined are anticipated to take approximately six to nine months to complete. Subsequently, Phases 3 and 4 will involve works along Woodman Lane and within Clyne Gardens, which are outside the scope of this PEA.

Works are planned to take place at low tide within dry conditions. It is anticipated that all construction activities will be limited to daytime hours (for example 7:30 to 18:00 from Monday to Friday and from 8:00 to 13:00 on Saturday). There will be no works over Christmas, New Year, Easter public holidays and Bank Holidays.

No vessels are required for the works, and all work will be undertaken using land-based machinery. The following equipment will be required to complete the works (the exact sizes of plant and machinery will be determined by the contractor pre-construction):

- 6T Wheeled dumper;
- 20-25T Tracked excavator with bucket;
- 20-25T Excavator with grab to place block stone;
- Lifting apparatus;
- Small tools such as drills and disc cutters and whacker plates;
- Pumps and settlement tanks;
- Concrete mixer and pumps.

Access to the Site will be via Mumbles Road, then along the pedestrian footpath/ cycle path. Plant and equipment for all works will access the beach via two temporary ramps constructed from the cycle path down onto the foreshore on either side of the outfall. These ramps will provide a stable, controlled access route and will be used throughout the works to move machinery and materials safely between the upper path and the beach.

The principal materials associated with the works relate to the removal of sand and sediment during the widening and deepening of the existing channel. It is anticipated that these will be delivered by road along Mumbles Road and stockpiled until use within the works compound. Excavated material will be managed and disposed of in accordance with the Marine Licence Methodology³, it is anticipated that this will be redistributed along the bay where appropriate.

³ AtkinsRealis (2026) Brockhole Stream Flood Alleviation Scheme. Marine Licence Methodology. 5122859-ATK-XX-GEN-RP-C-00003.

The site compound and storage area for the works is likely to be located to the south of Mumbles Road, within an area of modified grassland on the Swansea Bay promenade. This will be gated and fenced off and will also be situated above the high-water mark. The site compound will be used to store construction materials, plant and machinery, site offices and basic welfare facilities for the contractors. The site compound will also contain a bunded storage area for diesel and fuels, and all refuelling plans will take place in the site compound. All fuels will be stored and handled in accordance with the best practice procedures. On completion, the site compound will be removed following construction activities and the area will be returned to its existing condition.

For materials, the rock for the block stone and fill material for the trench will initially be delivered to the site compound by road. This rock will then be transported to the works location and organised into temporary stockpile areas below high water prior to placement. All other materials will be stored above high-water in the site compound area.

A Marine Licence will be applied for through consultation with Natural Resources Wales (NRW) to cover all works taking place below Mean High Water Springs (MHWS). A method statement with appropriate environmental mitigation measures will be produced to support the Marine Licence application.



SCOPE OF THE ASSESSMENT

2. Scope of the Assessment

This report presents ecological information obtained during the following:

- Ecological Impact Assessment (EclA) completed by TACP⁴ in 2022;
- A desk-study undertaken on 20/02/2026; and
- An ecological walkover and single snapshot winter bird survey of accessible land within and adjacent to the Site on 23/02/2026.

The walkover survey and identification of potential ecological constraints was based on the condition of the Site and its immediate surrounds encountered at the time of the walkover survey, and information about the Proposed Scheme available at the time. The single winter bird survey aimed to provide a snapshot of the distribution of overwintering bird species inhabiting the area of Swansea Bay within proximity to the Site. If information on the Proposed Scheme should change, the Site may need to be re-visited to establish if there are any further ecological constraints arising from changes to the design.

Full details on methods are present in [Appendix B](#), including details on the zone of Influence of the Scheme applied during the data gathering and assessment of potential ecological constraints, and the methodology for assessing ecological constraints, alongside specific survey limitations.

This report provides an initial appraisal of any likely ecological constraints to the proposed flood defence wall installation and culvert dualling works, such as the presence of protected species or other features of ecological interest, to the proposals. It identifies the need for any measures to avoid or mitigate damage and disturbance to habitats and species and provides recommendations for further ecological survey as required. Potential opportunities for biodiversity enhancement are also provided.

Target notes recorded during the ecological survey are detailed in [Appendix C](#).

Photographs taken during the ecological survey are provided in [Appendix D](#).

A summary of relevant ecological legislation is included in [Appendix E](#).

This report can be included in consultation with the relevant authorities with regards to gaining permission for working in or near to a watercourse⁵. This report does not provide advice on whether such permission is required.

⁴ TACP (2022) Brockhole Stream Swansea Updated Ecological Appraisal.

⁵ <https://www.gov.uk/permission-work-on-river-flood-sea-defence>



RESULTS

3. Results

Ecological constraints identified from the desk study and ecological walkover survey are summarised in Table 3-1 below with recommendations for any further survey and mitigation, including timings. Target notes are detailed in [Appendix C](#), with photographs provided in [Appendix D](#).

The Site can be broadly divided into two sections. The section of the Site where the flood defence wall installation is proposed comprises a public car park, bordered by a small area of broadleaved woodland and scattered trees, along with amenity grassland (pub garden) and ornamental hedgerow. The Brockhole Stream runs along the southern edge of this section and is then culverted under Mumbles Road. The surrounding area is comprised of residential buildings, with the Clyne Gardens park to the west. The section of the Site where the culvert dualling works are proposed is located on the east side of Mumbles Road and comprises an area of the Swansea Bay promenade and beach, with amenity grassland and public footpaths/cycleways. The Brockhole Stream flows onto the beach via an existing culvert and into a large area of intertidal foreshore.

Table 3-1 - Summary of Ecological Constraints and Recommendations

Site Features	Potential Ecological Constraints	Recommendations	Timing
Statutory Designated Sites⁶	The Blackpill, Swansea Site of Special Scientific Interest (SSSI), situated within Swansea Bay, is located adjacent to the Site at its nearest point, where the new culvert outfall is proposed. This site is designated for supporting significant populations of overwintering and passage wader species. In particular, counts for ringed plover (<i>Charadrius hiaticula</i>) and sanderling (<i>Calidris alba</i>) exceed 1% of both British and Western European populations. As the Proposed Scheme will involve works to the culvert which carries the Brockhole Stream towards Swansea Bay, there is a direct hydrological pathway between the Site and the SSSI. This may result in	As the Proposed Scheme may impact the SSSI, it is recommended that Natural Resources Wales (NRW) be notified and asked for assent prior to works commencing, as required under Section 28H of the Wildlife and Countryside Act 1981 (as amended). It is understood that this will be covered within the Marine Licence application. It is recommended that works on the shoreline be avoided during the overwintering period (November to March) to minimise disturbance to the qualifying bird species of the SSSI. If works during this period are required, then any construction activities (e.g. the	Prior to and during construction.

⁶ Where designated sites are situated outside of the Site boundary, the distance and direction are given to the closest point that the designated site is from the Site.



pollutants released during the works being discharged into Swansea Bay, which could adversely impact habitats and foraging resources which wading bird species rely upon.

A Water Framework Directive Assessment carried out for the Scheme concluded that with appropriate mitigation measures in place, the works would not result in the deterioration of the Swansea Bay coastal water body. Furthermore, there were no identified pathways for adverse effects on biology, habitats, fish, or water quality, and hydro-morphological impacts remain negligible and highly localised⁷.

While the programme of works is currently unconfirmed, it is anticipated that Phase 1 (new culvert works) will be undertaken during the winter of 2026/27. Therefore, it is possible that noise and visual disturbance created during the works may adversely impact overwintering waders should they be present. There is existing disturbance from human activity in this area, including on the road, promenade and beach. However, due to the proximity of the Site to the SSSI, including the intertidal substrate foreshore habitat which may be utilised by foraging waders, the potential impacts from disturbance cannot be ruled out.

There will be no significant land take within the SSSI, and habitat loss will be restricted to the clearance of trees and scrub around the existing culvert outfall.

cutting of block stones) should be undertaken off the shoreline and within the site compound where possible.

Appropriate mitigation measures will be required to minimise potential impacts to the Blackpill, Swansea SSSI and its qualifying features. It is recommended that a suitably qualified Ecological Clerk of Works (ECoW) with ornithological experience be employed throughout the works to advise on ecological constraints. The ECoW will deliver a site induction and toolbox talk to all operatives, indicating the ecological sensitivities of the Site and boundaries to working, ensuring that ingress into the SSSI is minimised. The ECoW will also be responsible for undertaking regular checks for qualifying bird species around the Site. During the winter months it may be necessary for daily checks to be undertaken.

Any birds observed within the SSSI during the overwintering period will be monitored by the ECoW, who will assess whether the birds are affected by noise and visual disturbance from ongoing construction activities. Details of any birds recorded will be logged by the ECoW (dates, species, numbers, location etc.).

If works during the overwintering period are required, in-situ mitigation measures should be utilised to minimise disturbance to overwintering birds within the SSSI, including:

- Acoustic and visual barrier fencing should be installed around the works area to minimise noise and visual disturbance.

⁷ AtkinsRéalis (2026) Brockhole Flood Alleviation Scheme. Water Framework Directive (WFD) Assessment.



No other statutory designated sites for nature conservation are located within 2 km of the Site.

- Hand tools should be used where possible during construction activities on the shoreline.
- The works should utilise plant and machinery with lower noise outputs where possible for construction activities on the shoreline (e.g. smaller engines or electric alternatives).
- Plant and machinery should be soft started to minimise sudden noise disturbance.

The mitigation measures detailed above will help reduce disturbance levels to an 'acceptable' threshold (where behavioural responses will be limited to a low-level response such as heads-up, where a bird temporarily looks up, before returning to its current activity).

However, if assemblages of overwintering birds are observed being disturbed by construction activities, even with mitigation measures in place, the ECoW may halt works temporarily until the birds move further away.

Consultation with NRW was sought in May 2026 in relation to the potential impacts of the proposed works on the Blackpill, Swansea SSSI⁸. It was noted that NRW would typically expect at least one full winter season of monthly surveys between September and March, including surveys undertaken during high tide periods. Due to the current programme of the Scheme it has only been possible to undertake a single snapshot wintering bird survey in February 2026.

NRW strongly advised that works are undertaken outside of the overwintering bird period where feasible, stating that the frontage adjacent to the seawall is

⁸ Email correspondence from Natural Resources Wales. Subject: Brockhole Stream FAS - Blackpill, Swansea SSSI. Date: 29/05/2026.



known to support roosting and foraging sanderling and ringed plover during winter months, and increased noise, visual disturbance, and beach access activity could result in displacement of these birds from the SSSI feature area. However, NRW also stated that where winter working cannot reasonably be avoided, appropriate mitigation measures should be implemented to minimise disturbance impact. The measures recommended by NRW have been incorporated into the list of mitigation measures detailed above.

Relevant best practice guidelines should be exercised when working near the Brockhole Stream and Swansea Bay:

- Works are undertaken in accordance with best practice, with regard to preserving water quality and preventing pollution during the works. It is recommended that all works adhere to Defra and Environment Agency guidance on pollution prevention⁹ and the Construction Industry Research and Information Association (CIRIA) Environmental good practice on site guide (C811D) (5th edition)¹⁰. These detail good practice advice for undertaking works which may have the potential to cause water pollution including management of fine sediment run-off from construction areas.
 - Extreme care must be taken to prevent any construction materials entering the water where
-

⁹Defra & Environment Agency (2016) Pollution prevention for businesses. Available at: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>

¹⁰ CIRIA (2023) Environmental Good Practice on Site Guide (C811D). Edition 5.



		they could have serious impacts on aquatic habitats and species; • All materials should be stored in accordance with the relevant regulations within a site compound, on existing hardstanding. This will prevent damage to habitats and minimise the risk of pollution from plant and materials stored within the compound.	
Non-Statutory Designated Sites¹¹	A total of 12 Sites of Importance for Nature Conservation (SINC) are located within 2 km of the Site, comprising: • Swansea Bay (within Site) • Clyne Gardens (40 m west) • Clyne Country Park & Valley (0.11 km west) • Mayals Wood (0.61 km southwest) • Mayals Green Corridor (0.81 km southwest) • Clyne Common and Golf Course (1.01 km west) • Woodland by Cwm Farm (1.1 km north) • Washinghouse Brook (1.16 km southwest) • Singleton Park (1.26 km northeast) • Coalbrook (1.53 km southwest) • Sketty Park Woodland (1.78 km north) • Oystermouth Cemetery & Castle (1.9 km south) The Swansea Bay SINC is designated for its coastal habitat features and the range of wildlife they support, including sand dune plant species such as sea stock, wetland invertebrates such as whorl snail, and large assemblages of wading birds. The proposed works	The recommended mitigation measures and best practice guidelines detailed above in relation to the Blackpill, Swansea SSSI, will also be relevant to the Swansea Bay SINC. It is recommended vegetation clearance and excavation works within the Swansea Bay SINC be avoided or minimised where possible.	During construction.

¹¹ Where non-statutory designated sites are situated outside of the Site boundary, the distance and direction is given to the closest point that the designated site is from the Site.



area comprises a minute portion of the overall Swansea Bay SINC area and will not result in the destruction of unique habitat within the SINC. As such, it is considered unlikely that the works will result in significant impacts to habitat which may support rare plant and invertebrate species. However, the Proposed Scheme could still adversely impact the SINC through the release of pollutants, or through disturbance created during construction activities.

No works will take place within the Clyne Gardens SINC, which is located upstream of the Site. Therefore, no impacts to the integrity of this SINC are expected.

Due to the minor and localised nature of the Proposed Scheme and the distance between the Site and other SINC located within 2 km, these SINC are considered unlikely to be impacted by the proposed works.

Ancient Woodland	A total of 15 ancient woodlands were identified within 1 km of the Site, comprising nine Ancient Semi-Natural Woodlands (ASNW) and six Restored Ancient Woodland Sites (RAWS). The nearest such woodland was an ASNW located 60 m east of the site, upstream of the Brockhole Stream. Due to the minor and localised nature of the Proposed Scheme, it is considered unlikely that any ancient woodlands will be impacted.	No recommendations are considered necessary.	N/A
Tree Preservation Orders (TPOs)	There are three individual TPOs and two group TPOs located within the Site (refer to Appendix A , Constraints Map). These comprise:	Measures to protect trees ¹² within and immediately adjacent the Site should be implemented throughout the works.	Prior to and during construction.

¹² British Standards Institution (2012). Guide for Trees in relation to design, demolition and construction: recommendations. BS5837:2012.



	• T5 – Sweet Gum (TPO603.T5) • T8 – Tree of Heaven (TPO603.T8) • T10 – Handkerchief Tree (TPO603.T10) • G1 – TPO603.G1 • G2 – TPO603.G2 The trees located along the north edge of the pub car park may require felling to facilitate the works (refer to Appendix A, The Woodman Car Park Plan), potentially impacting T5, T8, G1 and G2. Additionally, any retained trees may be impacted by works taking place within their root protection areas (RPAs).	If any trees with TPOs require removal to facilitate the works, then permission must first be obtained from Swansea Council.	
Priority Habitats	The sand dunes located adjacent to the existing culvert outfall may qualify as the habitat of principal importance coastal sand dunes, under Section 7 of the Environment (Wales) Act 2016. Additionally, the area located adjacent east of the Site, within Swansea Bay may qualify as the Section 7 habitat intertidal mudflats. In the absence of mitigation, these priority habitats could be impacted by the construction activities and the accidental release of pollutants. A Water Framework Directive Assessment carried out for the Scheme concluded that with appropriate mitigation measures in place, the works would not result in the deterioration of the Swansea Bay coastal water body. Furthermore, there were no identified pathways for adverse effects on biology, habitats, fish, or water quality, and hydro-morphological impacts remain negligible and highly localised¹³.	It is recommended that works within sand dunes habitat and adjacent to intertidal mudflats are avoided or minimised where possible. The sand dunes habitat should be re-instated following the works. It is understood that this area is to be re-planted following construction, with the composition of plant species to be agreed with the Swansea Council ecology team. The recommended best practice guidelines detailed above in relation to the Blackpill, Swansea SSSI, will also be relevant to minimising impacts to these priority habitats.	During and post-construction.

¹³ AtkinsRéalis (2026) Brockhole Flood Alleviation Scheme. Water Framework Directive (WFD) Assessment.



A NRW Priority Area (Woodland – PAWS) was identified 0.67 km west of the Site. Due to the minor and localised nature of the Proposed Scheme, it is considered unlikely that this habitat will be impacted. There were no ancient or veteran trees identified within 1 km of the Site.

Habitats

The section of the Site where the flood defence wall installation is proposed (west side of Mumbles Road) comprises a hardstanding public car park (u1b developed land; sealed surface) (Photograph 1). The Brockhole Stream (r2b other rivers and streams) runs along the southern edge of the car park, flowing east into a culvert (Photograph 2). There is a small area of other broadleaved woodland (w1g) to the north and west of the car park, containing mature trees including ash, beech, sycamore, horse chestnut and alder (Photograph 3). Stands of bamboo were also recorded within the woodland (TN1). A line of broadleaved trees (w1g6), with mixed scrub (h3h) and ornamental hedgerow (h2b) (*Buxus* sp.) was present along the south of the car park (Photograph 4). To the east was an area of modified grassland (g4) with tables and ornamental planting (pub garden). A stone wall and wooden fence (u1e built linear features) run along the borders of this area (Photograph 5).

The section of the Site where the culvert dualling works are proposed (east side of Mumbles Road) comprises an area of the Swansea Bay promenade and beach. The promenade features modified grassland, scattered trees and public footpaths/cycleways (Photograph 6). The Brockhole Stream flows onto the beach via an existing culvert and continues across a large area of intertidal foreshore (Photograph 7). The area around the

It is recommended that:

- Vegetation clearance should be minimised through design where possible.
- Measures to protect trees¹² within and immediately adjacent the Site should be implemented throughout the works. Although the trees do not have any particular intrinsic nature conservation value, they have the potential to support protected species, as described below.
- Relevant best practice guidelines should be exercised when working near watercourses (as discussed above in relation to Designated Sites).

Opportunities for biodiversity enhancement within retained habitats on Site are provided in Section 3.1.

During construction.



existing culvert outfall (TN2) comprises sand dunes (s3a) habitat with young alder trees (Photograph 8).

The other broadleaved woodland, line of trees, mixed scrub and sand dunes, along with the Brockhole Stream and adjacent intertidal foreshore habitat are considered to have intrinsic nature conservation value. Vegetation clearance and excavation will be required to facilitate the proposed works. This will include the felling of trees along the front edge of the woodland to the north of the pub car park. It is expected that there will be in-channel works within the Brockhole Stream. The car park, areas of modified grassland and ornamental hedgerow/shrubs are considered to have negligible value for nature conservation.

Bats

A total of six trees around the car park area were identified as having potential suitability for roosting bats. Refer to [Appendix A](#) (UKHab Map) for tree locations and [Appendix D](#) for full details. These comprise:

- T1 – PRF-I ash (Photograph 9).
- T2 – PRF-I beech (Photograph 10).
- T3 – PRF-M ash (Photograph 11).
- T4 – FAR goat willow (Photograph 12).
- T5 – FAR goat willow (Photograph 13).
- T6 – PRF-I goat willow (Photograph 14).

Due to the dense understorey of the area of broadleaved woodland north of the car park, it was difficult to fully inspect all trees for potential roost features. Therefore, all trees beyond those along the front edge are precautionarily categorised as FAR.

It is anticipated that some trees along the front edge of the woodland area to the north of the car park will be

Bats and their roosts have full legal protection as European Protected Species (see [Appendix E](#)). It is recommended that:

- The felling or pruning of trees assessed as having potential suitability for roosting bats is avoided where possible. The clearance of vegetation which may support foraging and commuting bats should also be minimised.
- Should any trees categorised as FAR require removal, these should be subject to an additional GLTA or aerial inspection survey as required to determine their suitability. The clearance of scrub (primarily bamboo) within the woodland may be required to facilitate access for any inspection.
- Should any trees categorised as PRF-I require removal, these should be inspected by a bat licensed ecologist. If no evidence of roosting bats is identified, the tree will then be soft-felled following a

Prior to and during construction.



felled to facilitate the proposed flood defence wall installation works (refer to [Appendix A](#), The Woodman Car Park Plan). It is therefore possible that trees T1-T3 and the FAR trees in the north of the woodland which could not be fully assessed may be impacted by the works. In the absence of mitigation, this could adversely impact roosting bats should they be present.

The habitats within the Site, including broadleaved woodland, tree lines, scattered trees, mixed scrub and the Brockhole Stream, are considered to be of moderate suitability for foraging and commuting bats. The proposed vegetation clearance and felling of trees may result in a minor adverse impact to foraging and commuting bats. However, there will be no significant change to habitats on site, and no impacts to habitat connectivity with the wider landscape. The Scheme will not involve any new permanent lighting and works are anticipated to take place during daytime hours. Therefore, disturbance to foraging and commuting bats will be negligible.

A total of 64 records of bats were returned within 2 km of the Site, comprising the following species: lesser horseshoe bat, common pipistrelle, soprano pipistrelle, noctule, brown long-eared bat, Daubenton's bat, Natterer's bat, greater horseshoe bat, unidentified *Nyctalus* species and unidentified *Pipistrellus* species. The nearest such record was for lesser horseshoe bat, located 0.22 km north of the Site.

Precautionary Method of Working (PMW) under an ecological watching brief.

- Should any trees categorised as PRF-M (including FAR trees which may be upgraded to PRF-M following inspection) require removal, these should be subject to three aerial inspection surveys (or dusk emergence surveys using Night Vision Aids) between May and September, with at least two surveys taking place between May and August.
- Safe passage for bats along the Brockhole Stream should be maintained during the works.

It is anticipated that works will only be undertaken in daylight hours. Should there be any need for night working, further advice should be sought.

Birds

A total of 16 species of birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) were returned within 2 km of the Site, comprising: Mediterranean gull, red kite, black redstart, redwing,

Tree felling and vegetation clearance should be minimised as far as practicable and undertaken outside the core bird nesting season (01 March to 31 August) to avoid damage or destruction of occupied nests or harm

Prior to and during construction.



great northern diver, kingfisher, hoopoe, goshawk, whimbrel, black-tailed godwit, osprey, peregrine, Dartford warbler, fieldfare, little gull and barn owl. The nearest such record was for Mediterranean gull, located 20 m south of the Site.

An additional 23 species of birds listed as species of principal importance under the Environment (Wales) Act 2016 were returned within 2 km of the Site, comprising: song thrush, house sparrow, bar-tailed godwit, curlew, willow tit, black-headed gull, starling, cuckoo, marsh tit, herring gull, dunnoek, ringed plover, bullfinch lesser spotted woodpecker, wood warbler, tree sparrow, skylark, kestrel, yellowhammer, reed bunting, linnet, golden plover and grasshopper warbler. The nearest such record was for song thrush, located within the Site.

Habitats recorded within the Site which are potentially suitable for nesting birds included broadleaved woodland, individual trees, ornamental hedgerow and mixed scrub. Many of the Schedule 1 species recorded within 2 km are considered unlikely to breed within the Site, either due to the lack of suitable habitat or because the species do not typically breed in Wales. However, the broadleaved woodland on Site may be suitable for breeding red kite and barn owl.

Should any works be required to take place within the core nesting bird season (01 March to 31 August), this could adversely impact any birds which may be nesting.

The single snapshot winter bird survey was undertaken from a vantage point near the location of the existing

to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for nesting birds by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey, they should be left in situ for their entire nesting period until the young birds have fledged. Alternative approaches to the work will need to be proposed e.g. leaving an exclusion zone around the nest to avoid disturbance.

If any potential Schedule 1 species are observed nesting within the Site, works should halt and an ornithologist should be consulted on an appropriate buffer distance in order to avoid disturbance.

All cleared vegetation should be rendered unsuitable for nesting birds, for example, by covering or chipping depending on the end purpose of the vegetation or should be removed from the works area.

With regard to the qualifying bird species of the Blackpill, Swansea SSSI, it is recommended that works on and adjacent to the shoreline be avoided during the overwintering period (November to March) to minimise disturbance. If works during this period are required, then any construction activities (e.g. the cutting of block stones) should be undertaken away from the shoreline within the site compound where possible.

If works during the overwintering period are required, in-situ mitigation measures should be utilised to minimise



culvert outfall (TN3). The following bird species were recorded during the survey:

- Oystercatcher – approximately 200 birds, located between around 100 m and 200 m away.
- Unidentified wader likely either dunlin, knot or sanderling – approximately 20 birds, located at the shoreline around 200m away.
- Mediterranean gull – two birds around 100 m away.
- Great black-backed gull – two birds around 100 m away.
- Ringed plover – one bird around 100 m away.
- Curlew – heard but not observed.

Several herring gulls, black-headed gulls, jackdaws and carrion crows were also recorded during the survey.

As discussed under Statutory Designated Sites, the Site is located adjacent to the Blackpill, Swansea SSSI, which is designated for supporting significant populations of overwintering and passage wader species. As wading birds have been observed around 100 m away from the Site, it is possible that the works to the culvert outfall may result in noise and visual disturbance to these species.

disturbance to overwintering birds within the SSSI, including:

- A suitably qualified ECoW with ornithological experience should be employed throughout the works to advise on potential impacts to wading birds and observe bird behaviour during the works.
- Activities should be restricted during sensitive tidal periods, particularly around high tide roosting times.
- Works should be carefully programmed to minimise the duration and spatial extent of disturbance.
- Temporary acoustic and visual barrier fencing should be installed around the works area to minimise noise and visual disturbance.
- Hand tools and other low-noise working methods should be used where possible during construction activities on the shoreline.
- The works should utilise plant and machinery with lower noise outputs where possible for construction activities on the shoreline (e.g. smaller engines or electric alternatives).
- Plant and machinery should be soft started to minimise sudden noise disturbance.

The mitigation measures detailed above will help reduce disturbance levels to an 'acceptable' threshold (where behavioural responses will be limited to a low-level response such as heads-up, where a bird temporarily looks up, before returning to its current activity).

However, if assemblages of overwintering birds are observed being disturbed by construction activities, even with mitigation measures in place, the ECoW may halt works temporarily until the birds move further away.



Consultation with NRW was sought in May 2026 in relation to the potential impacts of the proposed works on the Blackpill, Swansea SSSI¹⁴. It was noted that NRW would typically expect at least one full winter season of monthly surveys between September and March, including surveys undertaken during high tide periods. Due to the current programme of the Scheme it has only been possible to undertake a single snapshot wintering bird survey in February 2026.

NRW strongly advised that works are undertaken outside of the overwintering bird period where feasible, stating that the frontage adjacent to the seawall is known to support roosting and foraging sanderling and ringed plover during winter months, and increased noise, visual disturbance, and beach access activity could result in displacement of these birds from the SSSI feature area. However, NRW also stated that where winter working cannot reasonably be avoided, appropriate mitigation measures should be implemented to minimise disturbance impact. The measures recommended by NRW have been incorporated into the list of mitigation measures detailed above.

Great crested newts	A total of seven waterbodies were identified within 500 m of the Site, comprising: • Brockhole Stream – flows through the Site. • Outdoor children’s splash pool (SS 61955 90601) – 50 m north.	Great crested newts have full legal protection as a European Protected Species (see Appendix E). As a precaution, due to the presence of suitable terrestrial habitat for great crested newt within the Site and potentially suitable waterbodies within 500 m, it is recommended that:	Prior to and during construction.
----------------------------	---	---	--

¹⁴ Email correspondence from Natural Resources Wales. Subject: Brockhole Stream FAS - Blackpill, Swansea SSSI. Date: 29/05/2026.



- Pond and unnamed stream in residential garden which may connect to the Clyne River (SS 61702 90657) – 140 m northwest.
- Clyne River (SS 61955 90692) – 150 m north.
- Unnamed watercourse which flows into Clyne River (SS 61867 90728) – 170 m north.
- Pond within Clyne Gardens (SS 61576 90455) – 210 m southwest
- Unnamed watercourse which may flow into the Brockhole Stream (SS 61558 90508) – 230 m west.

Prior to commencement of works, a PMW should be produced detailing how works can be undertaken in a lawful manner to avoid harm to great crested newts. This should be followed, prior to and during the works, under an ecological watching brief.

There were no records of great crested newt returned within 2 km of the Site. A total of 29 records of other amphibian species were returned within 2 km of the Site, including palmate newt, smooth newt, common toad and common frog. The nearest such record was for palmate newt, located 0.6 km west of the Site.

The broadleaved woodland, ornamental hedgerow and scrub within the Site may offer suitable terrestrial habitat for great crested newt, which may commute from the ponds identified within the surrounding area. The woodland may also provide hibernation opportunities for this species and other amphibians.

The nearest potentially suitable waterbody for great crested newt is considered to be the pond located 140 m northwest of the Site. The Natural England Rapid Risk Assessment Tool¹⁵ was used to confirm that the loss or damage of up to 0.5 ha (5000 m²) of land within 100-250 m of any breeding ponds would be highly unlikely to cause an offence. The area of clearance

¹⁵ Natural England (2020) Great Crested Newt Rapid Risk Assessment Tool.



	required to facilitate the works are anticipated to be far below 0.5 ha, and as such the risk of harming great crested newts is considered to be low.		
Otter	No evidence of otter activity was recorded during the survey. A total of six records of otter were returned within 2 km of the Site, with the nearest such record comprising a live sighting located 0.7 km north. The section of the Brockhole Stream which flows through the Site is considered to have low suitability for otter, due to human disturbance and the presence of multiple culverts. Additionally, the stream is small in size and likely lacks the foraging resources which may attract opportunistic otters. The Site also offers limited opportunities for the creation of resting places or holts. However, it is considered possible that otter may utilise the stream to pass through the works area, particularly at night.	General construction safeguards detailed below should be implemented to protect badger and other mammals which may enter the Site.	N/A
Water vole	No evidence of water vole activity was recorded during the survey. No records of water vole were returned within 2 km of the Site. The section of the Brockhole Stream which flows through the Site is considered to have negligible suitability for water vole, due to human disturbance, limited bankside vegetation, partially engineered banks and the presence of multiple culverts.	No recommendations are considered necessary.	N/A
Reptiles	A total of 53 records of reptiles were returned within 2 km of the Site, comprising slow-worm, common lizard, grass snake and adder. The nearest such record was for slow-worm, located 0.63 km southwest of the Site. The broadleaved woodland, ornamental hedgerow, scrub and sand dune habitats may provide suitable	Reptiles are protected from intentional killing or injury under the Wildlife and Countryside Act 1981 (see Appendix E). It is recommended that prior to the commencement of works, a PMW should be produced detailing how works can be undertaken in a lawful manner to avoid	Prior to and during construction.



	foraging and refugia opportunities for common species of reptile. The woodland may also be suitable for hibernating reptiles. If any clearance of these habitats is required to facilitate the works, reptiles may be harmed in the absence of mitigation, should they be present.	harm to reptiles. This will involve a two-stage clearance methodology under the watching brief of an ECoW. This should be followed, prior to and during the works, under an ecological watching brief. Following the vegetation clearance, log and brash piles should be created within retained habitat to provide suitable refugia for reptiles.	
Hazel dormouse	No evidence of dormouse activity was recorded during the survey. No records of dormice were returned within 2 km of the Site. The broadleaved woodland around the car park is considered to be of sub-optimal value for dormice, as it contains a low diversity of food plant species and has limited connectivity to larger areas of woodland within the surrounding landscape. The other habitats present within the Site are of negligible value for dormice. It is not anticipated that the clearance of woodland habitat will be required to facilitate the works. As such it is considered unlikely that dormice will be affected by the proposed works.	No recommendations are considered necessary.	N/A
Badger	No evidence of badger activity was recorded during the survey. A total of three records of badger were returned within 2 km of the Site, with the nearest such record comprising a live sighting located 1.45 km northwest. The majority of habitats affected by the proposed works are disturbed by human activities and are considered to be of limited value for badgers. However, the area of woodland adjacent to the car park may be suitable for badger foraging and commuting. While habitat connectivity is limited, there are larger areas of woodland present within the surrounding landscape,	General construction safeguards detailed below should be implemented to protect badger and other mammals which may enter the Site.	During works.



	such as within Clyne Valley Country Park to the northwest. Therefore, it is considered possible that badger may pass through the works area opportunistically.		
Protected/priority fish¹⁶	Records of protected/priority fish species returned within 2 km of the Site included eel, angler, plaice, sole, smooth hound and lesser spotted dogfish. There is potential for pollutants created during the works to be released into the Brockhole Stream, which is hydrologically connected to Swansea Bay. Therefore, fish species which may present within the watercourse and the bay could be adversely impacted.	The recommended best practice pollution prevention guidelines detailed above in relation to the Blackpill, Swansea SSSI, will also be relevant for protecting fish species. In addition, the scheme will implement further mitigation measures, including appropriate silt-control systems, to minimise potential impacts on fish populations.	During works.
Protected/priority¹⁷ Invertebrates	Records of protected/priority invertebrate species returned within 2 km of the Site included: common oyster, knot grass, white-letter hairstreak, black oil-beetle, small phoenix, white-line dart, small blue, blood-vein, garden tiger, broom moth, cinnabar, shoulder-striped wainscot, lackey, white ermine, buff ermine, small square-spot, September thorn, dusky thorn, dark-barred twin-spot carpet, brindled beauty, powdered quaker, Icelandic cyprine, grey dagger, brown-banded carder bee, hornet robberfly, small pearl-bordered fritillary, small heath and marsh fritillary.	No recommendations are considered necessary.	N/A

¹⁶ Taken as principal species for the conservation of biodiversity listed under Section 7 of the Environment (Wales) Act 2016; any species listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any species listed under Schedule 5 of the Conservation of Habitats and Species Regulations 2017 (as amended); any species listed in an IUCN Red Data Book; and any other species listed under the local biodiversity action plan.

¹⁷ Taken as principal species for the conservation of biodiversity listed under Section 7 of the Environment (Wales) Act 2016; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under the local biodiversity action plan.



	There were no records of white-clawed crayfish within 2 km of the Site. The section of the Brockhole Stream which will be impacted by the proposed works is considered likely unsuitable for this species, as it lacks sufficient sheltering opportunities (e.g. submerged rocks and tree roots) and likely contains brackish water. Given the minor and localised nature of the works and the abundance of similar habitats within the surrounding landscape, the impacts on protected/priority invertebrates are considered to be negligible.		
Protected/priority¹⁶ plants	Records of protected/priority plant species returned within 2 km of the Site included: bluebell, sea stock, small-flowered catchfly and prickly saltwort. There is potential for these species to be present within the Site, particularly within the other broadleaved woodland and sand dunes habitats. Given the minor and localised nature of the works, impacts on protected/priority plant species are likely to be minimal.	It is recommended that any soil excavated from the woodland which may contain bluebell bulbs is retained and restored following the works. It is recommended that any clearance of sand dune habitat is avoided or minimised where possible to avoid impacting priority plant species such as sea stock.	During works.
Invasive Non-Native Plant Species (INNPS)	No plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the survey. However, within Google Street View imagery from July 2025, montbretia is visibly present along the Brockhole Stream adjacent to the car park area. Several large stands of bamboo (TN1) were noted within the areas of woodland and scrub around the car park area. While not officially listed in legislation, this species can be considered an invasive non-native.	Care must be taken to avoid the spread of these plants further within the Site and downstream to other sites (see Appendix E). It is recommended that: Biosecurity measures must be implemented throughout the construction phase to avoid the spread of non-native invasive plants which may be present within the Site. Montbretia plants can be dug out, but it is essential that all plant material is removed, including the corms, to prevent re-growth. Excavated material should be removed from the site to a licensed landfill as controlled waste.	During construction.



General Recommendations

- General measures should be implemented to avoid potential impacts on any wildlife individuals that may be present within the Site. Storage areas should be kept tidy and free from hazards, and any excavations should be covered or a means of escape should be provided to prevent animals from entering them and becoming trapped.
 - It is recommended that all works adhere to Defra and Environment Agency guidance on pollution prevention¹⁸ and the Construction Industry Research and Information Association (CIRIA) Environmental good practice on site guide (C811D) (5th edition)¹⁹.
 - If any protected species or evidence of legally protected species, or any non-native invasive plant species, are unexpectedly encountered at any point during the works, all works should cease and an ecologist should be contacted for further advice on how to proceed.
 - If works do not start on site within one year, i.e. by February 2027, the ecological constraints survey should be repeated.
-

¹⁸Defra & Environment Agency (2016) Pollution prevention for businesses. Available at: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>

¹⁹ CIRIA (2023) Environmental Good Practice on Site Guide (C811D). Edition 5.



3.1 Opportunities for Biodiversity Enhancements

The following opportunities for biodiversity enhancements have been identified:

- Following vegetation clearance, log and brash piles could be created in areas around the Site to provide suitable habitat for priority invertebrates, reptiles, amphibians and small mammals.
- The removal of invasive non-native species such as bamboo and montbretia from around the pub car park and the planting/seeding of native species would ecologically enhance the habitats present within the Site. Native trees and shrubs of value to wildlife should be used in any landscape planting.
- The planting of flowers, shrubs and trees that provide nectar, pollen and food for bees and other pollinators throughout the year are recommended. Advice on pollinator plants can be found in The National Pollinator Strategy²⁰ and more general information on plants of value for wildlife and be found on the RSPB website²¹.
- Bird boxes could be installed within retained habitat within the Site. It is recommended that a mixture of bird boxes are installed to allow a range of species to nest on the Site. Examples of suitable bird boxes can be found on the RSPB website²².
- Bat boxes could be installed within retained habitat within the Site. Bat boxes are a simple way to enhance a site for bats, which may be using the surrounding area for commuting or foraging. Guidance on fitting bat boxes can be found on the Bat Conservation Trust website²³. Landowner permission should be attained before installation.

3.2 Report Validity

In the event of scope or programme changes or if works do not commence within 12 months of the date of this report then updates to the surveys may be required to ensure the validity of the data, as per CIEEM guidance²⁴.

²⁰ Defra (2014). The National Pollinator Strategy: for bees and other pollinators in England. Available online at: <https://www.gov.uk/government/publications/national-pollinator-strategy-for-bees-and-other-pollinators-in-england>

²¹ RSPB (2021). Seven easy-to-grow plants to help pollinators and other wildlife. Available online at: <https://www.rspb.org.uk/helping-nature/what-you-can-do/activities/all-about-plants>

²² Example nest boxes available online at: <https://shopping.rspb.org.uk/bird-feeders-boxes-tables/bird-houses-nest-boxes>

²³ Bat Conservation Trust (2026) Bat Boxes. Available online at: <https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes>

²⁴ CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys.



APPENDICES

Appendix A. Figures

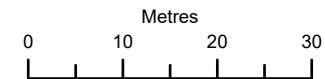
A.1 UKHab Survey Map





- Red Line Boundary
- Overall Tree Suitability Estimate
- FAR
 - PRF-I
 - PRF-M
 - Woodland FAR
- Target Notes
- Target Notes
- UKHab Lines
- h2b Other Hedgerow
 - r2b Other Rivers and Streams
 - u1e Built Linear Feature
 - w1g6 Line of Trees
- UKHab Polygons
- g4 Modified grassland
 - h3h Mixed scrub
 - s3a Sand dunes
 - u1b Developed land; sealed surface
 - w1g Other broadleaved woodland

World Imagery: Microsoft, Vantor
Hybrid Reference Layer: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



AtkinsRéalis
2 Atlantic Square
York Street
Glasgow
G2 8NJ



Client
Swansea Council

Project
Brockhole Stream FAS

Title
Blackpill UKHab Survey Map

Sheet Size	Original Scale	Designed / Drawn	Checked	Authorised
A3	1:800	EC	CG	
		Date 20/05/26	Date 20/05/26	Date 20/05/26

Drawing number	Rev
	00

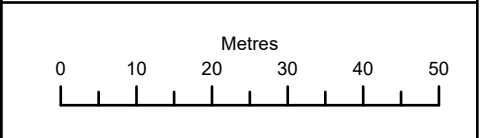
A.2 Constraints Map





- TPO Individual Trees
- TPO Group
- ▭ 2km Buffer
- ▭ 1km Buffer
- ▭ Red Line Boundary
- ▭ NRW Priority Area (Heathland and Grassland)
- ▭ NRW Priority Area (Woodland - PAWS)
- ▭ Plantation on Ancient Woodland Site
- ▭ Restored Ancient Woodland Site
- ▭ Site of Special Scientific Interest
- ▭ Ancient Semi Natural Woodland
- ▭ Site of Importance for Nature Conservation
- ▭ Intertidal Phase 1 Habitat

World Imagery: Microsoft, Vantor
Hybrid Reference Layer: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



AtkinsRéal
2 Atlantic Square
York Street
Glasgow
G2 8NJ

Client
Swansea Council

Project
Brockhole Stream FAS

Title
Blackpill Constraints Map

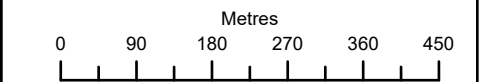
Sheet Size	Original Scale	Designed / Drawn EC	Checked CG	Authorised
A3	1:1,000	Date 20/05/26	Date 20/05/26	Date 20/05/26

Drawing number	Rev 00
----------------	-----------



- TPO Individual Trees
- TPO Group
- 2km Buffer
- 1km Buffer
- Red Line Boundary
- NRW Priority Area (Heathland and Grassland)
- NRW Priority Area (Woodland - PAWS)
- Plantation on Ancient Woodland Site
- Restored Ancient Woodland Site
- Site of Special Scientific Interest
- Ancient Semi Natural Woodland
- Site of Importance for Nature Conservation
- Intertidal Phase 1 Habitat

World Imagery: Microsoft, Vantor
Hybrid Reference Layer: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



AtkinsRéal
2 Atlantic Square
York Street
Glasgow
G2 8NJ

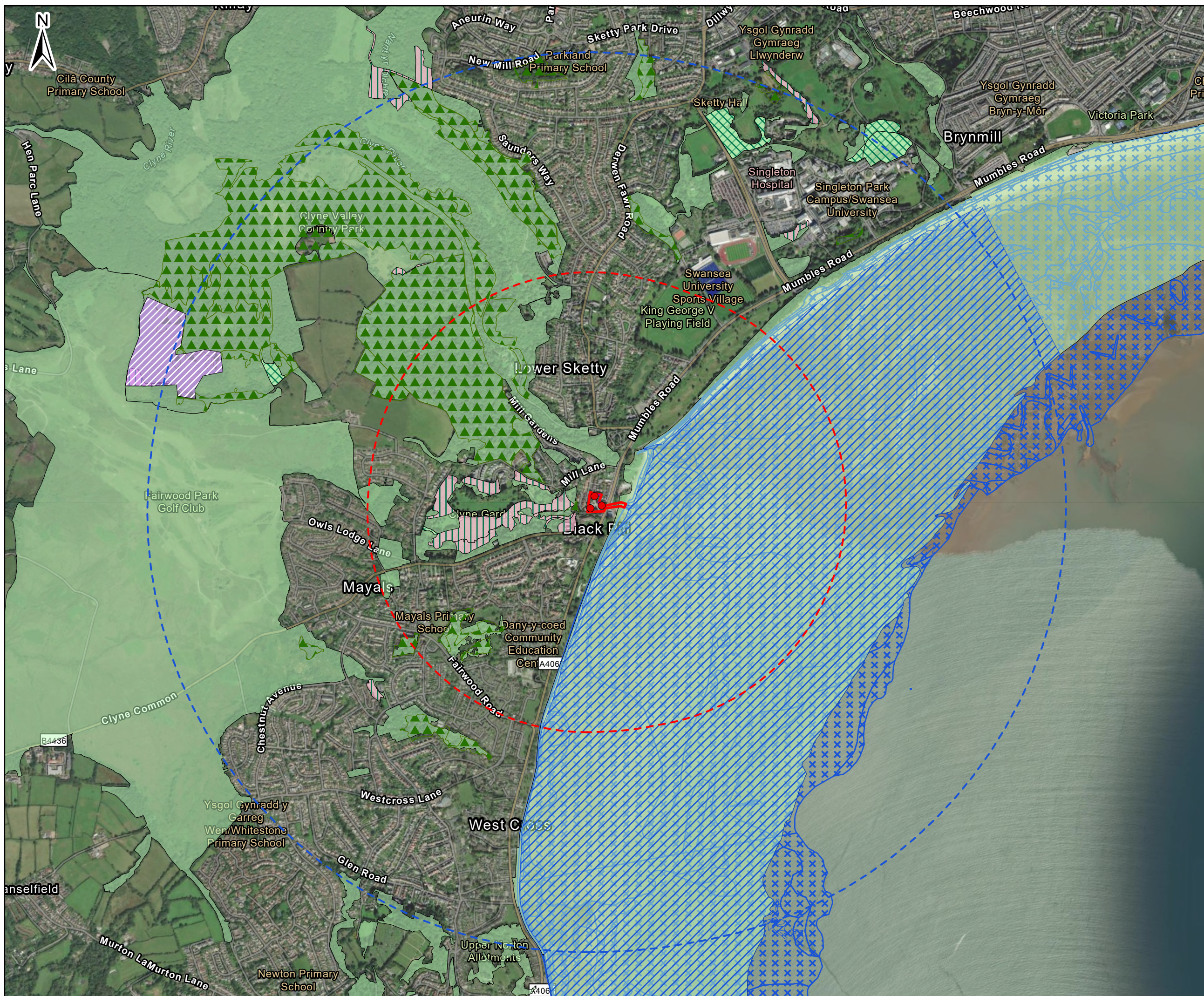
Client
Swansea Council

Project
Brockhole Stream FAS

Title
Blackpill Constraints Map

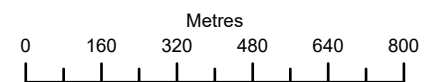
Sheet Size	Original Scale	Designed / Drawn	Checked	Authorised
A3	1:9,000	EC	CG	
		Date 20/05/26	Date 20/05/26	Date 20/05/26

Drawing number	Rev
	00



-  TPO Individual Trees
-  TPO Group
-  2km Buffer
-  1km Buffer
-  Red Line Boundary
-  NRW Priority Area (Heathland and Grassland)
-  NRW Priority Area (Woodland - PAWS)
-  Plantation on Ancient Woodland Site
-  Restored Ancient Woodland Site
-  Site of Special Scientific Interest
-  Ancient Semi Natural Woodland
-  Site of Importance for Nature Conservation
-  Intertidal Phase 1 Habitat

World Imagery: Microsoft, Vantor
Hybrid Reference Layer: Sources: Esri, TomTom, Garmin, FAO, NOAA,
USGS, © OpenStreetMap contributors, and the GIS User Community



AtkinsRéalis
2 Atlantic Square
York Street
Glasgow
G2 8NJ



Client	
--------	--

Swansea Council

Project

Brockhole Stream FAS

Title

Blackpill Constraints Map

Sheet Size A3	Original Scale 1:16,000	Designed / Drawn EC	Checked CG	Authorised
		Date 20/05/26	Date 20/05/26	Date 20/05/26
Drawing number				Rev 00

A.3 The Woodman Car Park Plan (5122859_60-ATK-XX-ZZ-DR-C-00030)



A.4 Proposed Outfall at Swansea Bay (5122859_60- ATK-XX-ZZ-DR-C-0034)





1. ALL LEVELS IN METERS TO ORDNANCE DATUM NEWLYN.
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED

 PLANNING BOUNDARY
 MARINE LICENCE BOUNDARY (0.099 ha.)
 PROPOSED COMPOUND AREA
 PROPOSED SITE TRAFFIC ROUTES

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

N/A

N/A

N/A

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Drawing Status	FOR LICENCE APPROVAL	Suitability	\$5
		West Glamorgan House 12 Orchard Street Swansea SA1 5AD	
		Tel: +44 (0)1792 641172 Fax: +44 (0)1792 472019 www.atkinsrealis.com  AtkinsRéalis (2026)	
Client	 Cyngor Abertawe Swansea Council		

Drawing Title

PROPOSED OUTFALL
AT SWANSEA BAY
GENERAL ARRANGEMENT

Scale 1:100	Designed DJH	Drawn DJW	Checked MJT	Authorised DMH
Original Size A1	Date 28/04/26	Date 28/04/26	Date 15/05/26	Date 15/05/26
Drawing Number 5122859_60-ATK-XX-ZZ-DR-C-0034				Revision P0

Appendix B. Methods

B.1 Desk Study

The geographical area for obtaining ecological data through desk studies has been determined using best practice guidance (as detailed in 2.10) and professional judgement. Baseline data has been gathered from a range of sources through data requests, consultation, and using online resources as outlined below. This included data gathering in relation to statutory and non-statutory designated sites and protected and priority species²⁵. The study areas used for the data gathering are detailed in Table 3-2. The desk study was undertaken on 20/02/2026. For species records collected, only those within 10 years of the data collection date have been considered within the assessment, in order to avoid the inclusion of historic records of species which are no longer present in the area.

The following online resources were accessed:

- Multi-Agency Geographic Information for the Countryside (MAGIC) website²⁶; and
- Natural Resources Wales Designated Site Search website²⁷.
- Swansea Council TPO map website²⁸.

The Ecological Impact Assessment (EclA) completed by TACP²⁹ in 2022 was also reviewed during the desk study.

Ordnance Survey maps and the Grid Reference Finder website (<https://gridreferencefinder.com/>) were used to identify the presence of water bodies within 500 m of the Site boundary, in order to establish if the land within and immediately surrounding the Site could be used as terrestrial habitat for great crested newts. This species typically uses suitable terrestrial habitat up to 500 m from a breeding pond³⁰. However, there is a notable decrease in great crested newt abundance beyond a distance of 250 m from a breeding pond³¹.

The following organisation was contacted to request records of protected and priority species and habitats and details of non-statutory designated sites:

- South East Wales Biodiversity Records Centre (SEWBRcC).

Table 3-2 - Data search areas

Data Type	Search area – distance from Proposed Scheme boundary
Statutory designated sites	2 km
Non-statutory designated sites	2 km

²⁵ These are defined in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal 2nd Edition.

²⁶ Natural England (2026) MAGIC. Available at: <https://magic.defra.gov.uk/>

²⁷ Natural Resources Wales (2026) Find protected areas of land and sea. Available at: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>

²⁸ Swansea Council (2025) Tree preservation order (TPO) map. Available at: <https://www.swansea.gov.uk/tpomap>

²⁹ TACP (2022) Brockhole Stream Swansea Updated Ecological Appraisal.

³⁰ English Nature (2004). Great Crested Newt Mitigation Licences

³¹ English Nature (2004). An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576) <http://publications.naturalengland.org.uk/publication/134002>



Data Type	Search area – distance from Proposed Scheme boundary
Protected and priority species	2 km
Ancient woodland	1 km
Priority habitats (including veteran trees)	1 km

B.2 Field Surveys

The geographical area for undertaking ecological field surveys has been determined using the current survey guidance, professional judgement and the zones of influence, which have been determined based on likely effects arising from the Proposed Scheme.

Following CIEEM's Guidelines for Preliminary Ecological Appraisal a walkover survey was undertaken, focusing on protected and priority habitats and/or species.

The walkover survey was undertaken on 23/02/2026. This included all land within the site plus a buffer of up to 10 m from the Site boundary where access was allowed (the Survey Area).

B.2.1 Surveyor Competencies

All the surveys were led by surveyors who have been assessed to be at least of capable experience following the Chartered Institute of Ecology and Environmental Management (CIEEM) competency framework³².

B.2.2 Habitats

Habitats were mapped using the UK Habitat Classification (UKHab) v2.0 system³³. UKHab is a comprehensive and hierarchical habitat classification system for the UK that was developed to benefit from changes in habitat categorisation, recording and analysis, and is suitable for digitally recording in the field using GIS. It is fully compatible with other major existing classifications, including Priority Habitat types (UKHab Level 4) and Habitats Directive Annex I habitat types³⁴ (UKHab Level 5).

All habitats were recorded to at least Level 3 of the UKHab hierarchy, i.e. broad habitats such as neutral grassland or dense scrub. Any Level 4 habitats and Level 5 habitats have also been recorded. In addition, 'Essential Secondary Codes' have been recorded to describe habitat mosaics, complexes and their origins. All habitat features have been digitally mapped, using ArcGIS Field Maps, as either polygons, lines or points and assigned to a UKHab Primary Habitat Code.

An assessment of the possible presence of priority habitats (as defined by CIEEM PEA guidance) was also undertaken during the walkover survey.

³² <https://www.cieem.net/competency-framework>

³³ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://ukhab.org>)

³⁴ Council Directive 92/43/EEC (1992) on the conservation of natural habitats and of wild fauna and flora (known as the 'Habitats Directive').



Vascular plant names recorded during this survey follow Stace³⁵.

Target notes (TNs) were used to record specific details on the plant species composition of the habitats, current management and quality. TNs were also used to record features of ecological importance (e.g. ponds, complex habitat mosaics).

B.2.3 Protected and Priority Species

An assessment of the possible presence of protected or priority species (as defined by CIEEM PEA guidance), and an assessment of the likely importance of habitat features present that could support such species was also undertaken during the walkover survey.

Surveyors used current guidance and methodologies, as referenced by CIEEM, for preliminary assessment of species.

The survey comprised assessing the suitability of the habitats present for, and recording any activity of the following species (in line with current guidance):

- Badgers³⁶;
- Bats³⁷;
- Hazel dormice³⁸;
- Otters^{39,40};
- Water voles⁴¹;
- Breeding, wintering and passage birds⁴²;
- Reptiles⁴³;
- Amphibians (terrestrial and aquatic habitats),
- White-clawed crayfish⁴⁴;
- Freshwater pearl mussel⁴⁵;

³⁵ Stace (2019) *New Flora of the British Isles* 4th edition.

³⁶ Harris S., Cresswell P. and Jefferies D. (1989) *Surveying badgers*. Mammal Society – No9.

³⁷ Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London.

³⁸ English Nature (2006). *The Dormouse Conservation Handbook (2nd edition)*.

³⁹ Chanin and Smith (2003). *Monitoring the otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. Peterborough, English Nature.

⁴⁰ Liles G. (2003). *Otter Breeding Sites. Conservation and Management*. Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough.

⁴¹ Dean, M. et al (2016) *The Water Vole Mitigation Handbook*. Mammal Society.

⁴² Bird Survey & Assessment Steering Group. (2022). *Bird Survey Guidelines for assessing ecological impacts, v.0.1.7*. Available at: <https://birdsurveyguidelines.org> [Accessed: 19/02/2026].

⁴³ Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife advice sheet 10.

⁴⁴ Peay S. (2003) *Monitoring the White-clawed Crayfish Austropotamobius pallipes*. Conserving Nature 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough.

⁴⁵ NatureScot (2018) *Freshwater pearl mussel survey protocol - for use in site-specific projects*. Available at: <https://www.nature.scot/doc/freshwater-pearl-mussel-survey-protocol-use-site-specific-projects> [Accessed: 19/02/2026].



- Priority invertebrates^{46,47};
- Priority plants and fungi⁴⁸.

A single snapshot winter bird survey was also undertaken from a vantage point near the location of the existing culvert outfall alongside the PEA. This survey recorded the species and numbers of birds present on the shoreline (within the boundary of the Blackpill, Swansea SSSI).

Evidence of the presence of the following invasive species was recorded where seen:

Evidence of animal species as listed on the Invasive Alien Species (Enforcement and Permitting) Order 2019; Chinese mitten crabs, red swamp crayfish, signal crayfish, spiny-cheek crayfish, muntjac deer, ruddy ducks, Egyptian geese and grey squirrels;

Evidence of the presence of the following invasive plant species: Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, Himalayan balsam, rhododendron⁴⁹, New Zealand pigmy weed, Virginia creeper, variegated yellow archangel, cotoneaster⁵⁰, yellow azalea, few-flowered leek, montbretia, giant rhubarb, Japanese rose, three-cornered garlic, fanwort, floating pennywort, curly waterweed, water hyacinth, floating water primrose, parrot's feather and waterweeds (all species of the genus *Elodea*). These are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and subject to strict legal control.

B.3 Limitations

This section identifies any limitations to the surveys or assessment and provides an explanation as to the effect of these on the appraisal.

Due to the dense understorey of the area of broadleaved woodland north of the car park, it was difficult to fully inspect all trees for potential roost features. Therefore, all trees beyond those along the front edge are precautionarily categorised as FAR, and will require further assessment if they will be impacted by the proposed works.

The UKHab survey was undertaken in February, which is outside of the peak flowering season for most floral species. Therefore, the species list given in this report should not be considered exhaustive. It is considered that the habitats on Site were sufficiently assessed to determine broad habitat types and to identify potential ecological constraints. However, it should be noted that some invasive non-native plant species are not visible during the winter months and may therefore have been missed during the survey. Montbretia was not recorded during the

⁴⁶ Buglife, Good planning practice for invertebrates: Surveys. Available at: <https://www.buglife.org.uk/resources/planning-hub/good-practice-planning-for-invertebrates/> [Accessed: 19/02/2026]

⁴⁷ English Nature, Organising surveys to determine site quality for invertebrates. Available at: <https://publications.naturalengland.org.uk/publication/69045> [Accessed: 19/02/2026].

⁴⁸ At the present time there is no current survey guidance for priority plants and fungi. However, the SSSI selection guidelines for non-lichenised fungi provide some survey methodologies for some groups. Available at: <https://hub.jncc.gov.uk/assets/d1fcb171-8086-4f5b-ade5-a34c5edc78c5>. [Accessed: May 2026].

⁴⁹ Although there are approximately 1200 species of rhododendron, just one species and one of its hybrids are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Rhododendron ponticum* and *Rhododendron ponticum* x *Rhododendron maximum*.

⁵⁰ There are approximately 100 species of cotoneaster found in the UK, but only five are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Cotoneaster horizontalis*, *Cotoneaster integrifolius*, *Cotoneaster simonsii*, *Cotoneaster bullatus* and *Cotoneaster microphyllus*.



survey, but was visibly present on Google Street View imagery from July 2025 and may be more widespread within the Site.

Winter bird surveys are typically carried out between October and February, with most sites requiring at least four monthly visits. Therefore, the single winter bird survey carried out alongside the PEA does not provide a full picture of the species diversity, peak counts or site utilisation of overwintering birds at this location. As such, further winter bird surveys may be required as part of the Blackpill, Swansea SSSI assent process.

The search for water bodies within 500 m of the Site was undertaken by using Ordnance Survey plans and aerial photographs only. These sources may not show all ponds and or water bodies within 500 m of the Site boundary and therefore some water bodies may not have been identified.

The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The UKHab survey checked for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, Himalayan balsam, rhododendron, New Zealand pigmyweed, Virginia creeper, variegated yellow archangel, montbretia and cotoneaster species.

The desk study reviewed the Woodland Trust Trusts Veteran Trees inventory⁵¹. This provides records of veteran trees, but is not an exhaustive list and other veteran trees may be present in the area. The walkover survey aimed to identify such features and as such this is not considered a constraint.

SEWBRc records are not exhaustive, and the absence of records does not demonstrate the absence of species. Records over 10 years old were not included within the desk study, however records beyond this date are considered likely to represent species which are no longer present within the area.

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The ecological surveys undertaken to support this PEA have not therefore produced a complete list of plants and animals and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. The above limitation/s has been addressed through taking the precautionary approach within the appraisal.

⁵¹ Woodland Trust (2026) Ancient Tree Inventory. Available at: <https://ati.woodlandtrust.org.uk/>



Appendix C. Target Notes

Target Note Number	Description	Photograph
TN1	Large stands of bamboo around the car park.	
TN2	Existing culvert outfall (concrete pipe culvert) onto Swansea Bay beach.	



TN3

View of the Brockhole Stream flowing across intertidal foreshore habitat within the Blackpill, Swansea SSSI.



Appendix D. Photographs

Photograph 1: Public car park.



Photograph 2: Brockhole Stream flowing south of the car park.



Photograph 3: Broadleaved woodland to the north of the car park.



Photograph 4: Line of broadleaved trees with ornamental hedgerow and mixed scrub along the south of the car park.



Photograph 5: Stone wall and wooden fence around the boundary of the pub garden area.



Photograph 6: Swansea Bay promenade with amenity grassland and public footpaths/cycleways.



Photograph 7: Existing culvert outfall, with the Brockhole Stream flowing towards the sea.



Photograph 8: Coastal/dune grassland with young alder trees.



Photograph 9: T1 – ash tree categorised as PRF-I, with a knot hole on the stem facing west at 4m and a pruning cut on a limb facing west at 4m. The features did not appear to extend back further into the tree.



Photograph 10: T2 – beech tree categorised as PRF-I, with a tear out/wound on a limb facing south at 3m. The feature did not appear to extend back further into the tree.



Photograph 11: T3 – ash tree categorised as PRF-M with a large wound cavity on the stem facing west at 4m. The feature may extend deeper into the stem and could be suitable for multiple roosting bats.



Photograph 12: T4 – goat willow tree categorised as FAR due to dense ivy cover which may obscure features.



Photograph 13: T5 – goat willow tree categorised as FAR. A small knot hole was noted on a limb facing south at 6m, but it was not possible to tell if the hole extended into a crevice or cavity.



Photograph 14: T6 – goat willow tree categorised as PRF-I. The tree was in poor condition, with thick overlapping ivy stems covering the stem, which may form crevices or obscure other features.



Appendix E. Legislation

Table 3. Summary of relevant species legislation in Wales

Species	Legislation	Offences	Licensing procedures and guidance
Bats <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ⁵² capture, injure or kill a bat; deliberate disturbance ⁵³ of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	Mitigation licences for development are issued by Natural Resources Wales (NRW): Guidance documents: NRW: bat licensing Good Practice Guide: Approach to Bats and Planning (NRW 2015) Bat Workers' Manual (JNCC 2004) Bat Mitigation Guidelines (Reason, P.F. and Wray, S. 2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th Edition (BCT 2023)
	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take a bat; intentionally or recklessly damage, destroy or obstruct access to any structure or place	A licence from NRW is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site. Guidance documents: Natural Resources Wales / Species licences for survey and conservation work

⁵² Deliberate capture or killing is taken to include “accepting the possibility” of such capture or killing.

⁵³ Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.



Species	Legislation	Offences	Licensing procedures and guidance
		used for shelter or protection or disturb ⁵⁴ a bat in such a place.	
Badgers	Protection of Badgers Act 1992	Wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett. [It is not illegal to carry out disturbance activities in the vicinity of setts that are not occupied.]	Where required, licences for development activities involving disturbance or sett interference or closure are issued by the NRW. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process. Licences are normally not granted from December to June inclusive because cubs may be present within setts. Guidance documents: NRW: badger licensing Badgers – A Guide for Developers (NRW 2023) Guidance on undertaking work close to badger setts that cannot be licensed under the Protection of Badgers Act 1992
Otters <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ⁵² capture, injure or kill an otter; deliberate disturbance ⁵³ of otters; or damage or destroy a breeding site or resting place used by an otter.	Mitigation licences issued for development are issued by NRW. Guidance documents: NRW: otter licensing
	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take an otter; intentionally or recklessly damage, destroy or obstruct access to any structure or place	No licence is required for survey in Wales. However, a licence would be required if the survey methodology involved disturbance. Guidance documents:

⁵⁴ Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 (as amended) remain an offence under the Wildlife and Countryside Act 1981 (as amended) although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.



Species	Legislation	Offences	Licensing procedures and guidance
		used for shelter or protection or disturb ⁵⁴ an otter in such a place.	Natural Resources Wales / Species licences for survey and conservation work
Hazel dormice European protected species	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ⁵² capture, injure or kill a hazel dormouse; deliberate disturbance ⁵³ of a hazel dormouse; or damage or destroy a breeding site or resting place used by a hazel dormouse.	Mitigation licences issued for development are issued by NRW. Guidance documents: NRW: dormouse licensing Dormouse Conservation Handbook (English Nature 2006)
	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take a hazel dormouse; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or disturb ⁵⁴ a hazel dormouse in such a place.	Licence issued for survey and conservation by NRW. Guidance documents: Natural Resources Wales / Species licences for survey and conservation work
Water voles	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take water voles; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or disturb a water vole in such a place.	Conservation licences issued for trapping and translocation operations by NRW. Certain displacement operations can be carried out under a class licence. Guidance documents: NRW: water vole licensing Strachan, R. & Moorhouse, T. (2011). The Water Vole Conservation Handbook, 3rd Edition. Wildlife Conservation Research Unit. Dean, M., Strachan, R. Gow, D. & Andrews, R. (2016). The Water Vole Mitigation Handbook. The Mammal Society, London.



Species	Legislation	Offences	Licensing procedures and guidance
Birds	Wildlife and Countryside Act 1981 (as amended) Schedule 1 (some species only).	Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; intentionally take or destroy the nest or eggs of any wild bird or intentionally obstructs or prevents any wild bird from using its nest. Intentionally or recklessly disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species [e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover].	No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes, e.g. public health, public safety, air safety. Guidance documents: NRW: bird specific licences
Great crested newts European protected species	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ⁵² capture, injure or kill a great crested newt; deliberate disturbance ⁵³ of a great crested newt; deliberately take or destroy its eggs; or damage or destroy a breeding site or resting place used by a great crested newt.	Mitigation licences for development are issued by NRW. Guidance documents: NRW: great crested newt licensing NRW: great crested newt licences for development, infrastructure, or maintenance work Great Crested Newt Mitigation Guidelines (English Nature 2001) The use of environmental DNA test for great crested newt licensing purposes (NRW 2014)
	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take a great crested newt; intentionally or recklessly damage, destroy or	Licences issued for science (survey), education and conservation by NRW. Guidance documents:



Species	Legislation	Offences	Licensing procedures and guidance
		obstruct access to any structure or place used for shelter or protection or disturb ⁵⁴ a great crested newt in such a place.	Natural Resources Wales / Species licences for survey and conservation work
Natterjack toads Sand lizards European protected species	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ⁵² capture, injure or kill it; deliberate disturbance ⁵³ of it; deliberately take or destroy its eggs; or damage or destroy a breeding site or resting place used by it.	Mitigation licences for development issued by NRW. Guidance documents: NRW: natterjack toad licensing NRW: sand lizard licensing
	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or to disturb ⁵⁴ in such a place.	Licences issued for science (survey), education and conservation by NRW. Guidance documents: Natural Resources Wales / Species licences for survey and conservation work
Adders Common lizards Grass snakes Slow worms	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill or injure any common reptile species.	No licence is required in Wales. However, an assessment for the potential of a site to support reptiles should be undertaken prior to any development works which have potential to affect these animals. Guidance documents: NRW: adder, grass snake, slow worm and common lizard licensing
White-clawed crayfish	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally take from the wild.	Licences issued for survey by NRW for survey (to take crayfish by hand, by hand net or by crayfish trap). Use of crayfish traps for survey requires NRW consent. Using crayfish traps to remove crayfish for maintenance or development activities in a watercourse requires a conservation licence from NRW. No licences in respect of development are available.



Species	Legislation	Offences	Licensing procedures and guidance
			White-clawed crayfish are considered to be under major threat of global extinction and is referred to in various biodiversity related policy⁵⁵. Several organisations involved in works on rivers or other waterbodies have general legal obligations⁵⁶ to take the presence of white-clawed crayfish into account when issuing permissions to undertake works. Guidance documents: Natural Resources Wales / Species licences for survey and conservation work
Freshwater pearl mussels	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take a freshwater pearl mussel; intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or disturb ⁵⁴ a freshwater pearl mussel in such a place.	A mitigation licence to cover all Wildlife and Countryside Act 1981 (as amended) offences can be obtained for projects with reasons of overriding public interest, or projects which preserve public health and safety, prevent serious damage to livestock, animal feed, crops, growing timber, fisheries or any other property and/or prevent spread of disease. Guidance documents: NRW: invertebrate licensing
Invertebrates⁵⁷	Wildlife and Countryside Act 1981 (as amended) Schedule 5, Section 9.	Intentionally kill, injure or take; intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb ⁵⁴ it in such a place.	NRW issues licences under the Wildlife and Countryside Act 1981 (as amended) for specific purposes. The requirement for a licence is dependant on the species of invertebrate and the protection that is provided. Guidance documents: NRW: invertebrate licensing Refer to Wildlife and Countryside Act 1981 Schedule 5 for species listed and Section 9 for the specific legislation which applies to each species as it does vary between species.

⁵⁵ White-clawed crayfish is listed under Section 7 of the Environment (Wales) Act 2016 as species of principal importance.

⁵⁶ Under the Water Resources Act 1991 and the Land Drainage Act 1991 there is a requirement to take into account the presence of notable species such as white-clawed crayfish when Natural Resources Wales or other statutory agency is considering granting consent for proposed operations to a watercourse.

⁵⁷ Excluding white-clawed crayfish and freshwater pearl mussel.



Species	Legislation	Offences	Licensing procedures and guidance
Rabbits, foxes and other wild mammals	Wild Mammals (Protection) Act 1996	Intentionally inflict unnecessary suffering to any wild mammal.	Lawful and humane pest control of these species is permitted.
Fen orchid Floating water-plantain Killarney fern Shore dock <i>European protected species</i>	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 47	Deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species (Schedule 5).	NRW issues licences under Regulation 55 of the Habitats Regulations to allow activities involving EPS to proceed, which would otherwise be offences. Guidance documents: NRW: European protected species of plant licensing
Plants <i>Nationally protected species</i>	Wildlife and Countryside Act 1981 (as amended) Schedule 8, Section 13.	Intentionally pick, uproot or destroy any wild plant on Schedule 8	No licence is required for survey. Licences can be issued by NRW for specific purposes only, such as science and education or conservation purposes. There is no provision for licensing the above actions for development operations under the Wildlife & Countryside Act 1981 (as amended). Guidance documents: NRW: UK protected plant licensing
Plants <i>Invasive species, e.g.</i> Japanese knotweed, giant hogweed, rhododendron, Himalayan balsam, montbretia	Wildlife and Countryside Act 1981 (as amended) Schedule 9, Section 14. The Invasive Alien Species (Enforcement and Permitting) Order 2019	It is illegal to plant or otherwise cause these species to grow in the wild. It is an offence to plant, cause to grow in the wild or intentionally release into the environment the plant species listed in Schedule 2, Part 2.	Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990. Guidance documents: NRW: invasive alien species regulations Japanese knotweed: Public information on invasive species in Wales (Welsh Government 2022) How to stop invasive non-native plants from spreading (NE, Defra & Environment Agency 2022) Guidance on section 14 of the Wildlife and Countryside Act (Defra 2011) GB Non-Native Species Secretariat



Species	Legislation	Offences	Licensing procedures and guidance
Animals Invasive species, e.g. American mink, grey squirrel, signal crayfish, Egyptian goose, muntjac deer	Wildlife and Countryside Act 1981 (as amended) Schedule 9, Section 14 The Invasive Alien Species (Enforcement and Permitting) Order 2019	It is illegal to release or allow these species to escape into the wild. It is an offence to intentionally release or permit Invasive Alien Species listed in Schedule 2, Part 1 to reproduce.	Species listed are subject to control through the legislation, but no specific licensing is required. Mitigation measures may be included within our reporting where we identify these species on site and where the client may cause an offence through implementation of their proposals. For example, this may include not releasing captured signal crayfish when surveying for white-clawed crayfish or implementing a trapping programme for mink alongside water vole mitigation works. Guidance documents: GB Non-Native Species Secretariat
Eel	The Eel (England and Wales) Regulations 2009	Numerous offences; notably, it is an offence to remove eels by instruments other than rod and line during the close season, and to construct, alter or maintain a dam or structure that amounts to (or is likely to amount to) an obstruction without first notifying Natural Resources Wales.	Licences and/or permits issued in certain circumstances by the Environment Agency. Further guidance is available at: Natural Resources Wales / Apply for permission to stock, remove and supply fish .
Fish	Salmon and Freshwater Fisheries Act 1975	Numerous offences; notably, it is an offence to wilfully disturb spawn, spawning fish or spawning areas, to use specified instruments to take or kill fish, and to introduce or remove fish or fish spawn from or to a fishery.	Licences and/or permits issued in certain circumstances by the Environment Agency. Further guidance is available at: Natural Resources Wales / Apply for permission to stock, remove and supply fish .



Table 4. Summary of relevant designated site legislation in Wales

Site Designation	Legislation	Protection	Guidance
Site of Special Scientific Interest (SSSI)	Wildlife and Countryside Act 1981 (as amended)	It is an offence to carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through local planning policy.	Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 before undertaking operations likely to damage a SSSI. Section 28G places a duty on all public bodies to further the conservation and enhancement of SSSIs. NRW provides advice in relation to SSSI are the impact from development. Guidance documents: <i>Planning Policy Wales - Edition 12 (Welsh Government 2024)</i> <i>Technical Advice Note 5: Nature Conservation and Planning (Welsh Government 2009)</i> <i>NRW: development works within sites of special scientific interest</i>
Local Sites (e.g. County Wildlife Sites, Sites of Importance for Nature Conservation)	There is no statutory designation for local sites.	Local sites are given protection through local planning policy.	Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged. Guidance documents: <i>Planning Policy Wales - Edition 12 (Welsh Government 2024)</i>





Table 5. Summary of relevant habitat and species legislation in Wales

Habitats & Species	Legislation	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Environment (Wales) Act 2016	Section 6 places a duty on public authorities to '<i>seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales</i>'. In so doing, public authorities must have regard to habitats and species listed in accordance with Section 7 of the Act, which requires Welsh Ministers to publish and maintain lists of species and habitats in Wales that are regarded as being of 'principal importance' for the purpose of maintaining and enhancing its biodiversity. This list can be found on the Wales Biodiversity Partnership website. Ecological impact assessments should include an assessment of the likely impacts to these Section 7 habitats and species.
Ecosystems	Environment (Wales) Act 2016	In meeting their obligation to seek to maintain and enhance biodiversity, Section 6 also places a duty on public authorities to '<i>promote the resilience of ecosystems</i>'. In complying with this duty, public authorities must consider ecosystem diversity, connectivity, scale, condition and adaptability. Public authorities must also have regard to the State of Natural Resources Report (published under Section 8 of the Act) and any area statement published under Section 11.
Hedgerows	The Hedgerows Regulations 1997	Under the regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority in Wales. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.
Net Benefit for Biodiversity	Environment (Wales) Act 2016	Section 6 places a duty on public authorities to '<i>seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales</i>'. This means development should not cause any significant loss of habitats or populations of species (not including non-native invasive species), locally or nationally, must work alongside nature, and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. The step-wise approach will help guide decision makers in securing a net benefit for biodiversity and the onus is on developers to bring forward proposals in a way which will achieve a net benefit for biodiversity demonstrating how they have used the step-wise approach. The broad framework for implementing the Section 6 Duty, securing a net benefit for biodiversity, and building resilience through the planning system includes addressing all of the following attributes, known as the DECCA Framework: ▪ diversity between and within ecosystems; ▪ the extent or scale of ecosystems; ▪ the condition of ecosystems including their structure and functioning; ▪ the connections between and within ecosystems; and ▪ adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example.



		Guidance documents: Planning Policy Wales - Edition 12 (Welsh Government 2024)
Watercourses (Main Rivers)	The Environmental Permitting (England and Wales) Regulations 2016	Flood Risk Activities: Environmental Permits. The environmental permitting rules must be followed where proposed works are: • on or near a main river; • on or near a flood defence structure; • in a flood plain; and/or • on or near a sea defence. There are 3 types of permission under the Regulations: • an 'exemption' – you do not need a permit but you must still register your exemption with Natural Resources Wales; • a 'standard rules permit' – permits that include a set of fixed rules for common activities; or a 'bespoke permit' – for all other flood risk activities – permits that are tailored to the risks from the proposed activities. Guidance around conditions for meeting exemptions and standard rules permits (for example, all reasonable steps are taken to protect aquatic plants and aquatic animals... on a main river that is a designated salmonid river, the maintenance works do not occur between 1st October and 14th March inclusive in any year...) are contained within the Regulations: The Environmental Permitting (England and Wales) Regulations 2016 Guidance and application forms are available at Natural Resources Wales / Check if you need a flood risk activity permit (FRAP)
Watercourses (ordinary watercourses)	Land Drainage Act 1991	Under Section 23 and Section 25 of the Land Drainage Act, the erection or alteration of any mill dam, culvert, weir or other like obstruction to the flow of an ordinary watercourse requires consent from the Lead Local Flood Authority (LLFA). The regulation consists of 2 elements: • the issuing of consents for any changes to ordinary watercourses that might obstruct or alter the flow of an ordinary watercourse • enforcement action to rectify unlawful and potentially damaging work to a watercourse Consent under the legislation is required for both permanent and temporary works. Applications and guidance varies between LLFAs. In exercising the powers conferred by the Land Drainage Act, the LLFA is required to pay due regard to the interests of fisheries. Applications may be refused where there are potential adverse impacts on ecology and biodiversity. Additional guidance for lead local flood authorities on Water Framework Directive considerations for ordinary watercourse consenting is available here: The Water Framework Directive and FCERM Local Government Association Generic good practice guidance for the maintenance of assets is available here: Flood risk asset maintenance and inspection: good practice guidance - GOV.UK.



Note that, since 1 April 2015, Natural Resources Wales exercises the land drainage functions in respect of the Internal Drainage Districts in Wales. The IDBs operating in Wales were abolished with functions transferred to NRW. Local authorities in Wales are responsible outside of these areas.

Further guidance is available here: <https://law.gov.wales/environment/flood-coastal-protection-and-drainage/land-drainage>

Guidance and application forms in respect of such areas are available at [Natural Resources Wales / Apply for land drainage consent](#)

Watercourses (all watercourses)

Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

The Water Framework Directive (WFD) legislation requires that all inland waters within defined river basin districts must reach at least 'Good' ecological status and defines how this should be achieved through the establishment of environmental objectives and ecological targets for surface waters.

To ensure compliance with the WFD, decision makers must consider whether proposals for new developments have the potential to:

- Cause a deterioration of a water body from its current status or potential;
- Prevent future attainment of good status or potential where not already achieved;
- Impact on protected areas, priority species and habitats, and/ or
- Support the achievement of water body objectives.

In the event that a proposed development does not fully mitigate the risks of deterioration occurring, or it prevents future attainment of good ecological status (GES) or good ecological potential (GEP), then evidence would need to be provided to satisfy all the requirements of Article 4(7) of the WFD in order to be compliant, namely that:

- All practicable steps have been taken to mitigate the adverse impact on the status of the waterbody;
- The reasons for the modifications or alterations are specifically set out and explained in the RBMP required under Article 13 and the objectives are reviewed every six years;
- The reasons for the modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development; and

The beneficial objectives served by the modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.



AtkinsRéalis



Ecology
AtkinsRéalis UK Limited
2 Capital Quarter
Floor 2
Tyndall Street
Cardiff
CF10 4BZ

Tel: +44 (0)29 2048 5159

© AtkinsRéalis UK Limited except where stated otherwise