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**PRELIMINARY ECOLOGICAL APPRAISAL**  
**GWYNFAEN PHASE 2, GORSEINON**

**ON BEHALF OF**

**POBL**

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All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

Protected species surveys are recognised as normally having a ‘shelf life’ of two years maximum. Surveys older than this are unlikely to be accepted by a Local Planning Authority or Natural Resources Wales as viable documentation without just cause.

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## **SUMMARY**

Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal on land at Gwynfaen Farm. It is proposed to develop the Site for residential purposes. The Site lies on the north western edges of Gorseinon and forms Phase 2 of development on land owned by the Welsh Government.

The Site is dominated by a field of species poor semi-improved grassland which is sheep grazed. There are former hedgerow boundaries to the majority of the Site which are unmanaged and generally trending towards rows of mature trees; shrub species are infrequent.

The Appraisal was undertaken at a sub-optimal time of year when many plant species may not have been visible in both the hedgerows or pasture. It is recommended that a walk over survey is undertaken during the main growing season to confirm the habitat classification. It is proposed to retain the boundary hedgerows.

The Site holds some potential for protected species, particularly bats, reptiles and breeding birds particularly around the boundaries and further survey is recommended for bats and reptiles before predicted impacts and specific recommendations can be made.

It is noted that the Site is very close to a Special Area for Conservation and the potential for harm to the SAC must be properly investigated before the development will be permitted to proceed. Recommendations are made for elements of the work to be clearly outlined in the Construction Environmental Management Plan to ensure discharges are properly controlled.

At this stage it is considered that the Site is in itself of low biodiversity value and the species poor grassland supports no species of significant value. If this is proven to be the case, the loss of the grassland to development will be of no significance. It is not possible to properly assess impact upon species until the further recommended surveys are undertaken.

## **1 INTRODUCTION**

- 1.1 Hawkeswood Ecology was instructed by Pobl Housing to carry out a Preliminary Ecological Appraisal (PEA) on land at Gorseinon which constitutes Gwynfaen Phase 2. The Site is essentially a small field to the immediate west of the Gwynfaen Phase 1 development which is currently ongoing. The approximate Grid reference of the Site is SS 577 993.
- 1.2 The Site is grazed by sheep and is heavily disturbed by foul drainage works with the routes of pipes and underground tanks obvious in the landscape. The grassland is best described as improved with rushes; gorse is present across parts of the sward. It is bounded by unmanaged hedgerows on all sides which have become largely rows of trees or narrow wooded belts.
- 1.3 The objectives of the survey are:
  - To ascertain the habitats and species present within the Site;
  - To assess the ecological and nature conservation value of the Site;
  - To assess the potential ecological impacts of the proposed development;
  - To provide recommendations to mitigate the proposed works.
- 1.4 The PEA was carried out on 23<sup>rd</sup> January 2024.

## **2 SURVEYOR EXPERIENCE**

- 2.1 The surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. He has extensive experience of protected species survey and holds Natural Resources Wales scientific and conservation licenses for bats and dormice (nos. S092015-1, 2022 and S093015-1, 2023 respectively). He has been a professional in the nature conservation field for thirty five years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

## **3 METHODOLOGY AND CONSTRAINTS**

### *Desktop Study*

- 3.1 In this instance a detailed desktop study has been previously carried out in 2022 by the Environmental Design Partnership. Whilst there is unlikely to have been significant change since that time the South East Wales Biodiversity Records Centre (SEWBReC) was asked to provide records for dormouse and great crested newt specifically from an enlarged 6 kilometre search buffer as recent reports had been heard of. In addition records that Hawkeswood Ecology hold within the Gorseinon locality were searched.
- 3.2 The Welsh Government Site DataMap Wales was used to look for Terrestrial Phase 1 Data on and around the Site. The UK Government MAGIC website was assessed to look at statutory designated

sites over a 2 kilometre radius for nationally important sites and 10 kilometres radius for internationally important sites respectively.

- 3.3 Additionally, Consultation with Swansea Local Planning Authority Ecologists was undertaken in reference to Habitat Regulations Assessment and protected species.

*Preliminary Ecological Appraisal*

- 3.4 The Preliminary Ecological Appraisal (PEA) was carried out in line with the guidance issued by The Chartered Institute for Ecology and Environmental Management second edition (2017) and consisted of a walk-over survey of the proposed Site considering features within and adjacent to it. Habitats were categorised according to the Phase 1 Habitat Survey guidelines (JNCC, 2010) and annotated onto a map (Figure 1). Plant assemblages were described using the DAFOR scale of cover abundance (Appendix 1) and each habitat was recorded using Target notes (Appendix 2); a species list of plants identified during survey is given in Appendix 3 and photographs are given in Appendix 4.
- 3.5 In addition, the Site was assessed for its potential to support protected species.

*Constraints*

- 3.6 The survey was undertaken at a time of year when many plant species are not visible. However, given the nature of the Site and dominance of agriculturally improved grassland species this is not considered to be a significant factor.

## **4 DESKTOP STUDY FINDINGS**

*Species*

- 4.1 SEWBRc reported 55 dormouse records and 4 great crested newt records from the 6 kilometre search area. The closest dormouse record to Site was approximately 3.8 kilometres north west of the Site and from the M4 corridor at Junction 48. A large number of the received records are from this Site and the M4 heading west. There is no suitable connectivity to the Site from this area which is west of the River Loughor. Other records are from over 5 kilometres north east and north of the M4 and from over 6 kilometres to the south, all on the southern side of the Gorseinon conurbation with no apparent connectivity to either location.
- 4.2 All four records of great crested newt are noted from a single location approximately 5.5 kilometres to the south east with no suitable connectivity to the Site.
- 4.3 SEWBRc data is confidential and cannot be released into the public domain without prior permission in writing from SEWBRc. Hawkeswood Ecology holds the data on the client's behalf for one year (in accordance with conditions) in case of further query.
- 4.4 Hawkeswood Ecology holds a number of records of Section 7 species from sites in Gorseinon. From within 500 metres of the Site, including Gwynfaen Phase 1, records of the following species are held:

|                         |
|-------------------------|
| Brown long-eared bat    |
| Common pipistrelle bat  |
| Common frog             |
| Common lizard           |
| Common toad             |
| Dunnock                 |
| Grass snake             |
| Natterer's bat          |
| Noctule bat             |
| Slow worm               |
| Song thrush             |
| Soprano pipistrelle bat |
| Whiskered bat           |

- 4.5 In addition to the above, Hawkeswood Ecology hold records for the following Section 7 species up to 2 kilometres from the Site:

|                           |
|---------------------------|
| Nathusius pipistrelle bat |
| Lesser horseshoe bat      |
| Greater horseshoe bat     |

*UK Government MAGIC site:*

- 4.6 A search for nationally and internationally designated sites on MAGIC produced the following results:

| Site                         | Designation*    | Nearest distance to Site (approx) |
|------------------------------|-----------------|-----------------------------------|
| Carmarthen Bay and Estuaries | SAC             | 110 metres                        |
| Gower Commons                | SAC             | 5.4 kilometres                    |
| Gower Ash Woods              | SAC             | 9.8 kilometres                    |
|                              |                 |                                   |
| Burry Inlet                  | SPA &<br>RAMSAR | 1.1 kilometres                    |
| Burry Inlet and Loughor SSSI | SSSI            | 110 metres                        |

\*

SAC – Special Area of Conservation;

SPA – Special Protection Area;

RAMSAR - a wetland of international importance under the Ramsar Convention;

SSSI – Site of Special Scientific Interest.

- 4.7 The Site lies approximately 110 metres from Carmarthen Bay and Estuaries SAC and Burry Inlet and Loughor SSSI and approximately 1.1 kilometres from Burry Inlet SPA and Burry Inlet RAMSAR Sites. It is separated from the SPA and Ramsar sites by a main road and existing development. Amongst other features, Carmarthen Bay and Estuaries SAC is cited for Tidal rivers, estuaries, mud flats, sand flats, lagoons (including saltwork basins), salt marshes, salt pastures, salt steppes. It is also cited for its twaite shad populations.

- 4.8 Bury Inlet SPA is cited as it '*regularly supports large numbers of overwintering wildfowl and waders that feed in the saltmarshes and on the intertidal areas. The site is the most important wholly Welsh estuary for overwintering waterfowl and is particularly significant for oystercatcher (Haematopus ostralegus). The Burry Inlet is ranked 28th of importance out of the 60 principal sites for non-breeding waterbirds in the UK (Frost et al., 2017)*'.
- 4.9 Burry Inlet RAMSAR site is designated for the largest continuous area of saltmarsh in Wales and major dune systems at the estuary mouth. It supports nationally and internationally important numbers of several species of wintering waterbirds.
- 4.10 The Burry Inlet and Loughor Estuary SSSI is of relevance with its nearest approach at approximately 110 metres. This Site is cited for birds and habitats and lies within the Carmarthenshire Bay and Estuaries SAC. No other SSSI is within 2 kilometres of the Site.

*Habitat*

- 4.11 The Site is identified as Agriculturally Improved Grassland in the Natural Resources Wales (NRW) Terrestrial Phase 1 Habitat Survey (DataMap Wales)



## 5 FIELD SURVEY FINDINGS

### *Introduction*

- 5.1 The survey area is dominated by wet poor semi-improved grassland and redundant unmanaged hedgerows that are not stockproof and have effectively become rows of mature trees. The pasture is sheep grazed and supports areas of dense soft rush and gorse growth. The Site has clearly been subject to agricultural improvement in the past and has also been subject to widespread disturbance due to the construction of drains, culverts and below ground tanks across much of the Site. See Figure 1, Phase 1 map; Target Notes can be found in Appendix 2 and photographs in Appendix 4.

### *Poor semi-improved grassland*

- 5.2 The Site is a relatively large (approximately 3.5 hectares) sheep grazed pasture that has been subject to agricultural modification (TN1). It is not as intensively managed with gorse colonising some areas and has been subject to significant disturbance.
- 5.3 The pasture has a westerly aspect and is generally damp, becoming wet to the west where the Site slopes more steeply to the western boundary. Grasses were dominant across the sward with perennial rye-grass and crested dog's-tail abundant; broad leaved herbs were species largely typical of modified grassland with daisy, creeping buttercup, selfheal, dandelion and chickweed occurring throughout. Wetter areas are dominated by soft rush, which is present across the Site and in particularly wet areas lesser spearwort and marsh ragwort are present.
- 5.4 Manholes and undersurface chambers are present across the Site (TN2) with a culvert outflow (TN8) occurring near the stream (TN7). These disturbed areas show on the ground with the presence of creeping thistle which is frequent in this part of the Site.
- 5.5 In wetter areas glaucous sedge is frequent and has taken advantage of animal poaching colonising large areas alongside soft rush. It's presence, alongside lesser spearwort and marsh ragwort, signifies the lack of recent intensive management.

### *Redundant hedgerows*

- 5.6 Hedgerows are indicated at Target Notes 3, 5,7 and 8. All are unmanaged, gappy and not stockproof. Shrub species are sparse and in some cases almost absent with mature trees indicating the hedgerow line, they are on banks.
- 5.7 The hedgerow at TN3 bounds the Site to the east against the Gwynfaen Phase 1 development. This hedgerow is fenced against grazing and access was limited to it. It is on a bank with a redundant ditch filled with leaf litter, debris and silt to the Site side. Canopy species are common oak, sycamore and goat willow with occasionally occurring hawthorn, holly and gorse forming the shrub layer. The ground flora was dominated by competitive species with abundant bramble, and ivy and locally abundant bracken. Foxglove, male fern, hart's-tongue fern and soft rush occur occasionally. The ditch was damp but did not support water at the time of survey, no specific aquatic species were noted.
- 5.8 At TN5 the hedgerow is a continuation north of a small woodland area (TN4) of hedgerow TN3. Here it is open to grazing and has no shrub layer and a grass-dominated field layer. Species noted were mature goat willow and overmature holly.

- 5.9 At TN7 is a long redundant and gappy species rich hedgerow bounding the Site to the northwest. It is on a bank and has a ditch in which a stream was running at the time of survey. Standard trees present include ash, common oak, goat willow and sycamore with overmature shrubs including hazel, hawthorn, gorse and guelder rose. The ground flora was largely shaded or grazed out with bare ground and leaf litter frequently occurring; species noted were bramble, tufted hair-grass, ivy and cocksfoot.
- 5.10 The stream was fast flowing at the time of survey. The banks were largely bare but species associated with the stream banks included hemlock water dropwort, remote sedge, male fern and broad buckler fern. For much of its length, the hedgerow and stream are open to grazing and poaching, grasses are frequently dominant where open and reflect the adjacent pasture.
- 5.11 At TN9 is another redundant and gappy hedgerow bounding the pasture to the south alongside a public footpath, it is on a bank with no ditch. The canopy is formed by mature trees with common oak and occasional ash, which is showing evidence of *Chalara* (ash dieback), dominating with rarely occurring beech. The shrub layer is sparse with occasional holly and beech present. The ground layer is largely shaded out with much bare ground; lesser celandine, creeping buttercup, male fern, hart's-tongue fern and broad buckler fern were noted.
- 5.12 At TN10, contiguous with TN9 is a redundant hedgerow and roadside amenity verge adjacent to Brynafon Road. The hedge largely consist of a canopy of common oak with occasional hawthorn, holly and goat willow in the sparse shrub layer. The ground flora is disturbed and affected by development of parking bays and a small substation. Species noted, including the verge, were abundant perennial rye-grass and locally abundant red fescue and cocksfoot; bramble was locally frequent and common vetch occasional. Pendulous sedge occurred rarely.

#### *Woodland*

- 5.13 At TN4 and TN6 are small areas of scrub and open woodland. At TN 4 a small section adjacent to the hedgerow has been fenced against grazing. The canopy is largely formed by the adjacent hedgerow at TN3 plus occasional ash. The shrub layer is dominated by gorse with occasionally occurring elder, holly and goat willow present. The ground flora is largely shaded out with abundant bramble, ivy and bare ground.
- 5.14 At TN6 is an open woodland, subject to grazing and with no shrub layer. It consist of mature ash and goat willow, many of the willow collapsing. The ground flora is dominated by grasses with soft rush abundant and marsh ragwort occasional.

#### *Other habitats*

- 5.15 At TN8 is a brick construction culvert outflow situated around 6 metres from the stream at TN7. The outflow is overgrown by dense gorse. TN2 describes manhole features and underground tanks across the Site assumed to be relating to foul water drainage from adjacent developments.

#### *Summary*

- 5.16 The Site is dominated by poor semi-improved grassland which is best described as 'improved with rushes', a habitat typical of formerly reseeded and poorly managed agricultural modified grassland, and redundant, derelict hedgerows; the hedgerows are a priority species under Section 7

of the Environment (Wales) Act 2016. The Site does not meet the requirements to be notified as a Site of Importance for Nature Conservation (SINC).

#### *Fauna*

- 5.17 Faunal species observed during the survey were limited to a small number of common birds seen mainly overflying or on adjacent habitats and grey squirrel.

|                          |
|--------------------------|
| Wood pigeon              |
| Blackbird                |
| Robin                    |
| Rook                     |
| Nuthatch                 |
| Great spotted woodpecker |
| Mistle thrush            |
| Crow                     |
| Herring gull             |
| Starling                 |
| Blue tit                 |
| Great tit                |

- 5.18 Bats are likely to forage over and around the Site and there is potential for roosting bats in the mature trees on the field boundaries. There is potential for reptiles to be present with habitat suitable for common lizard, slow worm and grass snake across the site.
- 5.19 The Site does not support suitable habitat for great crested newt or water vole, the stream is considered to be too fast flowing. Hedgehogs are considered likely to be present at times across the Site.
- 5.20 No evidence of badgers was noted from the Site or immediate surrounds although they are known from two setts approximately 230 and 270 metres to the north (Thompson, 2020), the badger setts were not classified but appear from photographs to be single hole outlier setts.
- 5.21 There are no records of dormouse within the search area and it is considered the habitats present on Site are sub-optimal for this species, their presence is considered unlikely. There is limited connectivity through a fragmented hedgerow network but the immediate locality is somewhat isolated by built areas and roads.
- 5.22 Common birds are likely to breed and forage over the Site. Breeding habitat is likely to be confined to the redundant hedgerows with limited potential for ground nesting birds due to grazing. The presence of meadow pipit is possible.
- 5.23 The use of the Site by wading and water birds from the adjacent estuary is likely to be limited to times of exceptional high tides. Even then it is likely to be limited due to the closed nature of the Site preventing the open views often required by these species.

5.24 The nature of the Site and its management are likely to limit the presence of invertebrates and also fungi species. The Site does not support suitable habitat for water vole.

*Non-native Invasive species*

5.25 No non-native invasive species were noted at the time of survey.

## **6 RELEVANT LEGISLATION AND POLICIES**

### *Birds*

- 6.1 Part I of the Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions and in the absence of a licence) intentionally to kill, injure or take any wild bird, or intentionally to damage, take or destroy its nest whilst being built or in use, or to take or destroy its eggs. Consequently, even common birds such as blackbirds or robins, and their nests and eggs are protected in this way. Any works involving removal or other management of trees or shrubs must be undertaken outside the breeding bird season (March- August).
- 6.2 Further, section 1(5) of Part 1 of the W&C Act states any person intentionally disturbing any wild bird included in Schedule 1 whilst it is building a nest or is in or near a nest containing eggs or young or disturbs the young of such a bird is committing an offence and liable to a special penalty.
- 6.3 The Conservation of Habitats and Species Regulations 2017 (as amended) has strengthened the protection of wild birds and their habitats. The Regulations now serve “To help preserve, maintain and re-establish habitats for wild birds.”
- 6.4 Under the amended Regulations, Local Planning Authorities (as well as national statutory conservation bodies such as Natural Resources Wales) are required to protect and create bird habitat.

### *Bats/Dormice*

- 6.5 All UK bats and dormouse are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take these animals. It is also an offence to intentionally damage or destroy their place of rest. In 2007 the offences of killing, injuring or taking species under Section 9(1), 9(2) and 9(4)a of European Protected Species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) were removed to avoid duplication with their protection under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended. The regulations remove the defence of inadvertent or accidental damage to roosts and make the offence ‘absolute’.
- 6.6 They are also protected under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended which requires the United Kingdom government to provide European Protected Species with strict protection.
- 6.7 The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017, this legislation consolidates amendments made to the earlier 2010 act. This legislation states in Part 3, Protection of Species, paragraph 43(1) that a person who:
- (a) deliberately captures, injures or kills any wild animal of a European Protected Species,
  - (b) deliberately disturbs wild animals of any such species,
  - (c) deliberately takes or destroys the eggs of such an animal, or
  - (d) damages or destroys a breeding site or resting place of such an animal,
- is committing an offence.

- 6.8 Further, with regard to disturbance of EPS, Paragraph 43(2) that disturbance is an act which is likely to:
- (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 a 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.
- 6.9 In the case of a development involving the loss or modification of a habitat which may affect an EPS the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Derogation Licence EPSL.
- 6.10 The introduction of the Conservation of Habitats and Species Regulations 2017, has removed the defence of killing or injuring a protected species during a lawful operation, thus even in an instance where planning permission is granted, the presence of EPS must be considered and mitigated for prior to commencement of works. Under the above regulations, a derogation licence can only be given if three tests are satisfied:
- The action proposed is in the interest of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment;
  - That there is not a satisfactory alternative;
  - That the action proposed will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 6.11 Failure to satisfy the regulations and obtain an EPSL where required is likely to result in prosecution and can lead to severe fines of up to £5000 per animal and possible imprisonment.
- 6.12 Eight species of bat and the dormouse are listed in section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.
- 6.13 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.
- Reptiles*
- 6.14 All common reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) schedule 5, from deliberate injury or killing (Section 9(1)) and sale (Section 9(5)).
- 6.15 A Welsh Government licence is not required to handle or disturb slow worms but there must be proper consideration of the presence of these animals on site and mitigating measures implemented to minimise any impacts on them.
- 6.16 All British reptiles are listed under section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining

and enhancing biodiversity in relation to Wales. A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

*Amphibians*

6.17 All amphibians are protected from sale under the Wildlife and Countryside Act 1981 (as amended)

*Badgers*

6.18 The Protection of Badgers Act (1992) makes it an offence to kill, injure, disturb or take a badger, or to damage or interfere with a sett without previously obtaining a licence from Natural Resources Wales (NRW).

6.19 The legislation states in Section 3:

*A person is guilty of an offence if, except as permitted by or under this Act, he interferes with a badger sett by doing any of the following things—*

*(a) damaging a badger sett or any part of it;*

*(b) destroying a badger sett;*

*(c) obstructing access to, or any entrance of, a badger sett;*

*(d) causing a dog to enter a badger sett; or*

*(e) disturbing a badger when it is occupying a badger sett,*

*intending to do any of those things or being reckless as to whether his actions would have any of those consequences.*

6.20 Within this legislation, if a sett is present on or near a development Site, a licence is needed to hand dig within 10 metres of the sett, to use light machinery within 20 metres of the sett or to use heavy plant machine digging within 30 metres of the sett.

*Hedgehogs*

6.21 Hedgehogs are protected under the Wildlife and countryside Act 1981 (as amended) as a Schedule 6 species and Wild Mammals Protection Act (1996) from capture, deliberate killing and cruel treatment.

*Special Areas of Conservation (SACs)*

6.22 The Special Areas of Conservation (SACs) have been chosen to make a significant contribution to conserving habitats and wildlife species that live there, named in the EC Habitats Directive.

*Special Protection Areas (SPAs)*

6.23 The Special Protection Areas (SPAs) in Wales are areas that have been designated specifically to conserve wild birds that are listed as rare and vulnerable in the Birds Directive. They also include the sites in Wales that migratory birds use as stop-off points on their journeys across the planet.

*Sites of Special Scientific Interest (SSSIs)*

6.24 Sites designated as a SSSI come under the legal framework provided by the Wildlife and Countryside Act 1981, with further provision included in the Countryside and Rights of Way Act 2000.

*Sites of Importance for Nature Conservation (SINC)*

- 6.25 Sites of Nature Conservation Interest (SINC) are sites which contain features of substantive nature conservation value at a local level. The sites are designated through a Local Sites Partnership (LSP), using an agreed set of criteria.

*Hedgerows Regulations 1997*

- 6.26 The Hedgerows Regulations were introduced to Wales and England in 1997. The Regulations prohibit the removal of ‘important’ hedgerows as defined by historical and ecological features identified in the Regulations without a hedgerow removal notice being submitted to the Local Planning Authority. Local Authorities have the power to prevent the removal of hedgerows classified as ‘important’ when assessed against the Regulations.

*Environment (Wales) Act 2016*

- 6.27 The Welsh Government has made a commitment to reversing the decline in biodiversity in Wales and increasing the resilience of its ecosystems. This is in part fulfilled by the Environment (Wales) Act 2016 which introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience.
- 6.28 Section 6 of the Act places a duty on public authorities to ‘seek to maintain and enhance biodiversity’ and ‘promote the resilience of ecosystems’ in the exercise of their functions. Section 7 places a duty on Welsh Ministers to identify lists of living organisms and types of habitat (priority habitats and species) in Wales that are of key significance to sustain and improve biodiversity in relation to Wales. Local Authorities have a duty to consider this list when considering planning applications, applying the principles of sustainable management of natural resources. The Section 7 list is a revised list of the Section 42 list in the Natural Environment and Rural Communities Act, 2006.

*Well Being of Future Generations (Wales) Act 2015*

- 6.29 The Well-being of Future Generations Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.
- 6.30 The Act includes a number of key principals and resilience of ecosystems forms a core principle, it aims for ‘*A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).*’

*National Policy/Legislation*

*Planning Policy Wales 11 (2021)*

- 6.31 Planning Policy Wales (PPW) 11 states in 6.4.5 that Local Planning Authorities ‘*must seek to maintain and enhance biodiversity in the exercise of their functions. This means that the development should not cause any significant loss of habitats or populations of species locally or nationally and must provide a net benefit for Biodiversity.*’
- 6.32 Within this is incorporated the use of DECCA – Diversity, Extent Condition, Connectivity and Adaptability of ecosystems, factors used to measure Ecosystem Resilience. These Policies and



other policies in Chapter 6 of PPW 11 relate to the requirements of the Section 6 Duty of the Environment (Wales) Act 2016.

*Securing Biodiversity Enhancements*

- 6.33 The Chief Planning Officer sent a letter to LPAs (dated 23<sup>rd</sup> October 2019) following discrepancies over the implementation of LPA duty under the environment (Wales) Act 2016. This letter provides clarification on the Welsh Governments approach to Paragraph 6.4.5 of PPW 11. The purpose of the letter was to ‘*clarify that in light of the legislation and Welsh Government policy outlined above, where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission.*’ Biodiversity maintenance and enhancement and Ecosystem Resilience will need therefore to be considered in any future planning application.
- 6.34 Planning Policy Wales (PPW) 12 has recently been released and has strengthened the green infrastructure segments. In respect of the Chief Planning Officers letter (6.32 above) and a consultation process Paragraph 6.4.5 in PPW 12 now requires a net benefit for biodiversity in any development and reads:  
*Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species (not including non native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site..*

*Swansea City Council Policies*

*Biodiversity and Development, Supplementary Planning Guidance, 22/02/2021*

- 6.35 This Supplementary Planning Guidance (SPG) sets out how Swansea Council will seek to ensure development within Swansea maintains and enhances the County’s biodiversity and delivers long term ecosystem resilience in accordance with National Government guidelines. The guidelines call for early ecological input and recommend a stepwise approach to development with avoidance and mitigation as key aims in the process. In accordance with PPW (6.4.5), and the S6 duty, Swansea Council will seek to ensure that development provides a net benefit for biodiversity.

*Trees, Hedgerows and Woodlands, Supplementary Planning Guidance October 2021*

- 6.36 This SPG refers to trees, hedgerows and woodlands and their interpretation in the adopted plan and national legislation. It has been produced to give basic information on how trees hedgerows and woodlands are dealt with in the planning system and sets out the steps that need to be considered at various planning and design stages, as well as during construction, to ensure that all significant existing and proposed trees are kept healthy and become an asset to a new development.

*Local Development Plan 2010-2025, Policy ER 8, Habitats and Species*

6.37 Policy ER 8 States that:

*‘Development proposals that would have a significant adverse effect on the resilience of protected habitats and species will only be permitted where:*

- i. The need for development outweighs the nature conservation importance of the site;*
- ii. The developer demonstrates that there is no satisfactory alternative location for the development which avoids nature conservation impacts; and*
- iii. Any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall nature conservation value of the area. Where this is not feasible, compensation measures designed to conserve, enhance, manage and, where appropriate, restore natural habitats’*

## 7 DISCUSSION AND IMPACT ASSESSMENT

- 7.1 The Site is dominated by poor semi-improved grassland and unmanaged hedgerows with two very small areas of woodland which do not easily equate to a known classification; both are the result of outgrowth from the hedgerows. Hedgerows are considered Principal Habitats under the Environment Act (Wales) 2016 irrespective of condition or provenance. The Site lies on the north of Gorseinon between the built environment and the Loughor Estuary.
- 7.2 The grassland, constituting the majority of the approximately 3.5 hectare Site, is species poor and has suffered significant agricultural modification leading to an ‘improved grassland with rushes’ habitat type. Although soft rush is abundant in parts of the Site, its presence appears to be a factor of how wet the Site becomes and what management is being undertaken. It appears that management has become more restricted in recent years (from viewing Google Earth) and this has allowed rush to take a hold in various wetter parts of the Site.
- 7.3 As a whole, the Site is at best damp with some areas, particularly to the northern point and western slope, very wet at the time of survey leading to an element of poaching by the sheep which itself encourages the propagation of soft rush, allowing bare ground for it to seed into. Some wet areas contain lesser spearwort and marsh ragwort and glaucous sedge is present in parts of the Site. Given the proximity to nearby wetland habitats and marshy grassland, their presence is not surprising if management has been less intensive.
- 7.4 The proposals as seen by Hawkeswood Ecology in a schematic initial layout calls for retention of the hedgerow/woodland boundaries with only breaks in the western hedgerow to allow road and pedestrian access to the Site. In this layout open ground is retained in the northern corner and a SuDS basin provided to the west of the Site. These areas will offer opportunities for Net Benefit for Biodiversity gain. The hedgerow affected is bounding a new residential development and is therefore outside of the scope of the Hedgerows Regulations (1997).

### *Protected Sites*

- 7.5 Importantly the Site sits within 110 metres of the Carmarthenshire Bay and Estuaries Special Area of Conservation (SAC). This SAC cited for, amongst other features, tidal rivers, estuaries, mud flats, sand flats, lagoons (including saltwork basins), salt marshes, salt pastures, salt steppes. Currently a number of drainage systems appear to cross the field emptying into the stream at TN7 which runs into the SAC beyond Gwyn Faen Farm. The potential for pollution incidents during construction and beyond are significant and must be addressed.
- 7.6 In addition, approximately 2.0 kilometres to the south west of the Site is Burry Inlet Special protection Area (SPA). The SPA is cited for the large number of waterbirds regularly wintering across the area. The Burry Inlet and Loughor Site of Special Scientific Interest (SSSI), designated for its exceptionally diverse assemblage of wintering waterfowl forms part of the SPA but extends further north along the Loughor and its boundaries lie approximately 110 metres from the Site aligned at this point with the Carmarthenshire Bay and Estuaries SAC. Whilst this area of the SSSI lies outside the SPA, there is clearly interaction with birds being driven upstream by tides, therefore the saltmarshes in this area are also of importance to waterfowl.

- 7.7 The Gower Commons and Gower Ash Wood SACs will not be affected by this development.
- 7.8 An assessment of potential impacts upon Protected Site features is considered in Table 1 below:

**Table 1: Assessment of potential impacts upon features of Protected Sites.**  
**(Note: A Construction Environmental Management Plan (CEMP) will be produced before construction commences).**

| Site                             | Features   | Potential Impact   | Impact level and Mitigating Factors  |
|----------------------------------|--|--|--|
| Carmarthen Bay and Estuaries SAC | Tidal rivers, estuaries, mud flats, sand flats, lagoons (including saltwork basins), salt marshes, salt pastures, salt steppes.                        | <ul style="list-style-type: none"> <li>• Pollution impacts during construction, i.e.:                             <ul style="list-style-type: none"> <li>○ Chemical spills, fuel spills, washing out equipment into stream.</li> </ul> </li> </ul> | Local impacts at water entrance to SAC;<br>Ensure CEMP has action plans for immediate action in case of pollution incident;<br>CEMP will have line of management responsibility clearly identified;<br>CEMP will identify outside organisations (i.e. NRW) to be contacted in case of incidents. |
|                                  |  | <ul style="list-style-type: none"> <li>• Pollution incidents post construction:                             <ul style="list-style-type: none"> <li>○ Road run off contamination, foul water run-off in stream.</li> </ul> </li> </ul>              | All drainage should be captured to prevent contaminated water running not stream. All water run-off should run via SuDs basin.   |
|                                  | twaite shad  | No impacts foreseen  | N/A  |
| Burry Inlet SPA                  | Internationally important site for holding large numbers of overwintering wildfowl and waders that feed in the saltmarshes and on the intertidal areas | Pollution incidents.   | See above<br>Given the distance from the Site, no significant impacts are foreseen under normal circumstances and operations.  |
|                                  |  | Disturbance:<br>Potential disturbance during construction and post construction.   | The SPA is almost 2 kilometres distance from the Site, and the Site is surrounded by mature trees masking Site from the SAC. No  |

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|                              |  |  |  |
|------------------------------|--|--|--|
|                              |  |  | significant impacts are foreseen during or post construction.  |
| Burry Inlet and Loughor SSSI | Extensive areas of grazed saltmarsh, sand and mud flats.   | <ul style="list-style-type: none"> <li>• Pollution impacts during construction, i.e.: <ul style="list-style-type: none"> <li>○ Chemical spills, fuel spills, washing out equipment into stream.</li> </ul> </li> </ul>   | <p>Local impacts at water entrance to SSSI;</p> <p>Ensure CEMP has action plans for immediate action in case of pollution incident;</p> <p>CEMP will have line of management responsibility clearly identified;</p> <p>CEMP will identify outside organisations (i.e. NRW) to be contacted in case of incidents.</p>   |
|                              |  | <ul style="list-style-type: none"> <li>• Pollution incidents post construction:<br/>Road run off contamination, foul water run-off in stream.</li> </ul>   | <p>All drainage should be captured to prevent contaminated water running not stream. All water run-off should run via SuDs basin.</p>  |
|                              | Nationally significant for wader and wildfowl populations. | <p>Disturbance during construction phase:</p> <ul style="list-style-type: none"> <li>• Noise from construction processes;</li> <li>• Artificial light spill during working;</li> <li>• Physical disturbance from trespass of work/workers to estuary.</li> </ul> | <p>The Site is well hidden from the estuary by mature trees, even from the highest level of the Site the saltmarshes are well screened. In addition, Gwyn Faen Farm stands between the development and the estuarine habitats.</p> <p>If artificial lighting is necessary it will be screened and be directional, this will be addressed in the CEMP.</p> <p>Physical barriers will be in place around working areas to protect retained boundary habitats and</p> |

|  |  |   |  |
|--|--|---|--|
|  |  | <p>Disturbance post construction:</p> <ul style="list-style-type: none"> <li>• General noise and visual disturbance to birds on estuary/salt marshes;</li> <li>• Disturbance from increased human traffic (i.e. dog walkers)</li> <li>• Increase in predation from domestic animals.</li> </ul> | <p>prevent easy access to the neighbouring farmland and saltmarshes.</p> <p>The housing will be screened from the marshes and estuary not only by the high wooded boundary by Gwyn Faen Farm buildings and yard.</p> <p>The wooded boundaries and Farm buildings will help dissipate noise and it neither the altered visual landscape nor noise are considered a significant issue.</p> <p>Artificial lighting may create problems and any highway lighting should take into account the location (see recommendations, section 8).</p> <p>In addition, properties backing onto the wooded boundary to the north and west must not be allowed to place high lumens security lighting that may overlook the estuary.</p> <p>The Site is already surrounded by a public footpath which runs around the estuary side of the Site and between it and Gwyn Faen Farm. The nature of the terrain on the saltmarsh is likely to discourage all but the most determined walkers and most domestic pets (i.e. cats).</p> |
|--|--|---|--|

7.9 Table 1 shows that there are some potential impacts from the scheme and mitigating factors are given in the table and explained in Section 8 to reduce or eliminate these potential issues.

*Protected Species*

- 7.10 The Site has potential to support roosting bats, breeding birds and reptiles, if the hedgerows or woodland are negatively affected by the proposals a provisional roost assessment of any trees being managed will be required prior to commencement. There is also a likely presence of common amphibians which are also protected under the Wildlife and Countryside Act 1981 (as amended), but only from trade; common toad is a Section 7 Priority Species, however.
- 7.11 Bats and breeding birds are also likely to utilise the Site for foraging. The linear boundary features present would also be of importance to commuting bats. Many species of bat are easily disturbed by introduction of artificial light spill and consideration to such factors as light spill and disturbance should be made early in the development design stage and any measure to mitigate this clearly detailed at that stage.
- 7.12 The use of the Site by winter birds can be expected with possibly meadow pipits and skylark coming to lower ground during the winter. The enclosed nature of the Site makes it generally unsuitable for supporting birds off the estuary (i.e. waders and duck) and the disturbance already occurring from the adjacent farm and built up areas would also be likely to be problematic for them.
- 7.13 The presence of reptiles is likely and further survey for this group is recommended. The habitats on-Site present opportunities for common lizard, slow worm and grass snake in particular, with ample opportunities for basking and foraging particularly around the Site boundaries.
- 7.14 At this stage, further survey is considered necessary for the above groups to properly address impacts and provide suitable mitigation and/or compensation.
- 7.15 The presence of great crested newt is not considered likely, despite there being water on Site, it is a fast flowing stream (at the time of survey) and unsuitable for the species. There are no records of this species within 400 metres of the Site and it is on the western limits of its range in this area. Given the isolation of the Site from suitable breeding habitat it is considered they will not be present on Site.
- 7.16 The presence of dormice is considered very unlikely and the nearest record returned by SEWBRc was approximately 4 kilometres of the Site on the western side of the River Loughor. However, a population has recently been recorded in a relatively isolated area within 2 kilometres of the Site (Pers comm) and as such, however unlikely their presence, they cannot be absolutely ruled out in this area. Recommendations are made in regard to dormouse in Section 8.
- 7.17 The proximity of the Site to the SAC could result in otters using the stream for passage, there is no suitable habitat for lying up though. Given that the stream now rises a short distance upstream from new housing areas it is considered that otters will not be negatively impacted by the proposed development. Badger setts are known from approximately 250 and 300 metres north of the Site.



No clear evidence of badger was seen during the survey (i.e. paths, latrines), but their potential presence is considered in Section 8. The Site does not support suitable habitat for water voles.

- 7.18 Hedgehogs are widely reported in the locality and badgers within a kilometre of the Site. No evidence of badgers could be seen on or near the Site at the time of survey but their use of it for foraging is possible and their presence should be a consideration; hedgehog are expected to be present.
- 7.19 Given its improved nature, the Site is considered to be of limited value for invertebrates and reptiles. Any value the Site may hold for these groups is likely to be in the field boundaries which are largely retained.

#### *Characterisation of Impact*

- 7.20 Should the proposed development proceed it will result in the loss of the poor semi-improved grassland including areas of gorse possibly result in the loss of short sections of hedgerow to allow access. Currently the impact upon some protected species is not clear but given the nature of the Site, the most significant impacts may be towards loss of habitat for reptiles should they prove to be present.
- 7.21 There would also be potential for significant negative impacts on the adjacent SAC if appropriate safeguarding measures are not in place to prevent pollution incidents during and post construction.

#### *Ecosystem resilience*

- 7.22 Under the Environment (Wales) Act 2016 and Well Being of Future Generations Act 2015 require Local Planning Authorities (LPA's) and other public bodies must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Assessment of the Ecosystem Resilience is therefore an integral part of the LPA's duty and they will need to consider the impacts of the proposed development upon the resilience of the adjacent wooded areas in this context. LPAs are directed to consider the resilience of ecosystems early in the planning process to aid assessment of the impacts of any proposed development upon biodiversity. In addition, a letter from the Chief Planning Officer clarified planning requirements in relation to biodiversity impacts (see Section 6, Relevant Legislation and Policies) points out the responsibility of the LPA to maintain and enhance biodiversity and to provide '*a net benefit for biodiversity*'.
- 7.23 The premise for Ecosystem Resilience is laid out in Section 4 of The State of Natural Resources Report, a 2018 document produced by Natural Resources Wales (NRW) on behalf of the Welsh Government. It lays out a framework for assessing ecosystem resilience. However, despite the duty placed on LPA's, there is no currently agreed format for this assessment.
- 7.24 It is also important to note that further survey is required to fully understand the biodiversity of value of the Site thus the assessment below may be subject to change following the provision of new data.

7.25 Section 4 names five attributes that NRW consider ‘building blocks’ of ecosystem resilience, these are:

- Diversity
- Extent
- Condition
- Connectivity
- Adaptability

7.26 These factors are considered below, although none of them are considered ‘stand-alone’ and all interrelate to some extent. It is also important to note that it is the responsibility of the LPA to assess Ecosystem Resilience and that any Site based report is not able to make judgements on a wider scale. As pointed out above, it is important to note that there is as yet no agreed format to undertake such an assessment.

#### *Diversity*

7.27 The habitats on Site can be placed into two broadly distinct areas, poor semi-improved grassland and hedgerows. The hedgerows within the survey area are all unmanaged and in poor condition, they are also to be retained and should not be directly impacted by the works. The hedgerow described at TN7 does look to be species rich and may require further assessment under the Hedgerows Regulations 1997 should any proposals be made to remove it. They are also likely to be of importance to protected species such as bats and birds and possibly reptiles and offer features for commuting wildlife.

#### *Extent*

7.28 The Site is approximately 3.5 hectares of which the vast majority is dominated by the poor semi-improved grassland. The Site sits close to a Special Area for Conservation and drains to it.

#### *Condition*

7.29 The Site is agriculturally modified and in poorly managed condition. It is sheep grazed across its extent which appears to be impacting adversely on habitat condition allowing proliferation of soft rush and gorse. It does not support a range of vascular plants that indicate any importance at the time of survey, however further survey at an appropriate time of year to confirm this would be sensible. All hedgerows are in poor condition and generally unmanaged and open to grazing.

#### *Connectivity*

7.30 The Site itself is bounded to the south and west by residential development, to the east by salt marsh and to the north by pasture. There is a hedgerow network offering some connectivity but encroaching developments to the north are limiting this.

7.31 The hedgerows are likely to provide an important corridor for mobile species.

#### *Adaptability*

7.32 NRW comments that:

*‘Adaptability differs from the other attributes because it is part of the definition of resilience rather than an attribute that supports it. However, its inclusion in the Environment (Wales) Act is*

*important because it emphasizes one of the most important features of resilience: dynamism and the ability to adapt to change.'*

- 7.33 NRW also comments that '*Adaptability cannot yet be quantified in an equivalent way to the other attributes and so we have not used it in the assessment of resilience in this State of Natural Resources Review*'. As such this cannot be considered in this report.
- 7.34 At its most simple, this would mean that the LPA must protect any biodiversity value of the of the Site and any impacts likely to affect adjacent areas. Without mitigation, development impacts could be considered to be significant.

*Predicted Development Impacts - Habitats*

- 7.35 Development of the Site would result in the loss of all of the poor semi-improved grassland on the Site and there may be limited impacts upon the existing hedgerows. Of major concern is the potential for pollution incidents negatively affecting the adjacent SAC. Irrespective of current condition, hedgerows are considered as Habitats of Principal Importance under section 7 of the Environment (Wales) Act 2016. A walk over survey is recommended to confirm the status of the grassland and hedgerows, however, if the scheme is designed to account for potential issues with the closeness of the SAC and to improve retained habitats it is considered to be of **no significance** in a local or wider context.

*Predicted Development Impacts - Species*

- 7.36 Currently there is not enough information to offer predicted impacts upon protected species. Further surveys are recommended.

## **8 RECOMMENDATIONS**

- 8.1 Further surveys are recommended for :
- Walk over habitat survey at an appropriate time of year (i.e. June)
  - Bat activity;
  - A bat tree roost assessment of any trees affected by any proposed development;
  - Reptile presence/absence survey;
  - Pre-commencement search for use of stream and wider Site by otter and badger;
  - Although not planned, should the hedgerow at TN9 be removed a Hedgerows Regulations Assessment may be required.
- 8.2 Note that the following recommendations are general and will be supplemented or amended once the above survey results are obtained.
- 8.3 The Site will be subject to a Habitat Regulations Assessment (HRA). This is an assessment of the possible harm a project or plan could cause to certain specially protected sites, i.e. The Carmarthen Bay and Estuaries SAC. The responsibility for informing the HRA lies with the developer and a screening test of likely harm will be undertaken with details provided by them (i.e. through survey) and an initial screening assessment made by the Local Planning Authority to assess if an Appropriate Assessment is required.
- 8.4 An area will be identified during the construction phase where chemicals and building materials can be safely stored and bonded to prevent contamination of the adjacent habitats and the SAC. Measures to prevent and deal with any pollution incidents will be clearly outlined in Construction Environmental Management Plan (CEMP) as will measures to be undertaken immediately in the event of any pollution incident.
- 8.5 It is likely that the works will disturb existing foul water drainage systems, the CEMP must clearly demonstrate how this will be carried out without contamination of water flows and what measures will be put in place should a pollution incident occur. The CEMP must also show immediate steps to be undertaken in the event of any incident and the management structure responsible for such actions and also which outside body must be informed in the case of a spill that cannot be contained.
- 8.6 Application drawings and plans and the CEMP should clearly show how foul water drainage from the Site will be prevented from entering the SAC. It should be clearly identified how the proposed attenuation basin will prevent contaminated run off materials (rubber particles, oil etc) from entering the SAC. The CEMP will show how management of the attenuation pond will be undertaken to maintain its effectiveness.
- 8.7 In addition, the Site is very wet as it falls to the west (and the SAC). The CEMP must clearly demonstrate how contaminated run off water will be captured before

entering the stream at TN7 and potentially the SAC during both the construction phase and post construction.

- 8.8 The CEMP will show measures to be undertaken to prevent trespass by construction personnel into areas off Site that may cause disturbance to the adjacent SAC/SSSI.
- 8.9 Any works on hedgerows and woodlands should be undertaken outside the bird breeding season (March to end August) and only with caution in February and September. There is no licence for the destruction of active bird nests and nest translocations invariably fail, in addition nest searches are often unsuccessful and miss nesting birds. Development timing is a key consideration should such works prove necessary. Checks should also be made prior to works undertaken outside the breeding season if the weather is fine as climate warming is leading to an extended breeding season.
- 8.10 If works to hedgerows are proposed (including invasive works during planting up the existing hedgerow) the affected areas must first to be searched for evidence of dormouse use by an appropriately experienced and licensed dormouse ecologist.
- 8.11 The existing hedgerows/mature trees should be retained. Hedgerow and Tree root protection zones (RPZ) will be outlined for retained hedgerows and will comply with BS 5837:2012 – Trees in relation to design, demolition and construction. A minimum five metre buffer for woodland and hedgerows from any new build is recommended.
- 8.12 Any landscaping plan should introduce native species reflecting those present in the local area (all native species should be of local provenance). Woody plantings in particular should reflect those present in local hedgerows and woodlands. Typical include common oak, hazel, hawthorn, blackthorn, dog rose common gorse and holly. Other species that might be considered for their potential to support invertebrates and have fruits include guelder rose, dogwood, crab apple and elder, these may be used in the wider landscaping plans for the Site.
- 8.13 Should gardens back on to the retained field boundaries closed board fencing should be installed against them. A buffer zone should be maintained between the garden fence and the boundaries and should be regularly cleared of rubbish to prevent the spread of potentially invasive species into the wider countryside.
- 8.14 Hedgehog passes must be constructed into the fence bases as closed fencing can isolate areas of garden, particularly impacting on hedgehog travel. Boards will be cut out to give a minimum 15x15cm gap at the bottom, or more preferably be fitted to leave a minimum 15cm gap at ground level for the length of the fence.

*Artificial Light Spill*

- 8.15 Artificial lighting and spill into the surrounding habitats may present a significant impact upon nocturnal wildlife using the SAC and SSSI adjacent to the Site, in

particular birds and bats. If artificial lighting is to be utilised a predicted illuminance contour map (lux plots) should be produced and a methodology for reducing light spill into the neighbouring habitats to less than 1 lux if possible (i.e. by use of baffles). If this lux level cannot be achieved, further measures must be investigated to reduce light spill impacts.

- 8.16 Illuminance surveys should be undertaken by an appropriately qualified engineer and accord with the survey guidance presented in the Bat Conservation Trust guidance note 08/18 of 2023. The use of ‘bat friendly’ lighting (wavelengths above 550 nano metres) should be used for any street lighting employed.
- 8.17 The use of high intensity security lighting that may affect the adjacent SAC/SSSI and other habitats will be discouraged.
- 8.18 Further recommendations on lighting may be given following the bat activity survey.
- 8.19 Immediately prior to commencement of any works a search for badger setts in and within 30 metres of the Site and use of the stream by otter should be undertaken.
- 8.20 No non-native invasive species were recorded during the current survey. However Japanese knotweed was reported in earlier survey in the hedgerow TN3 (2015), this was not seen during the current survey and may have been eradicated, but the hedgerow should be monitored during any development and not disturbed.
- 8.21 Recommendations will be updated as necessary following completion of the recommended further surveys.

*Net Benefit for Biodiversity*

- 8.22 The retained redundant hedgerows should be beaten up with native plantings and encouraged to become linear woodland corridors.
- 8.23 There are opportunities in the attenuation pond area to encourage or create wetland habitats, particularly marshy grassland. Discussions should be started at an early stage with the engineering design team to look at ways to utilise the attenuation pond area for biodiversity benefits without jeopardising it’s functionality. There will also be potential to enhance the wooded area to the farm behind the pond.
- 8.24 Integral bat and bird boxes will be used in the new construction. Bat tubes will be located on buildings near the Site boundaries and bird boxes, in particular swift and house martin artificial nests, on a number of houses throughout the development. The choice of integral bat and bird boxes to be used will be dependent upon the wall construction and finish and a final choice will be agreed by the Project Ecologist before fitting. The location of boxes will be identified on final planning drawings.

- 8.25 The open area adjacent to the play area in the north of the Site offers opportunities for invertebrate friendly plantings and simple measure to enhance the area for reptiles. This could be better detailed once the recommended survey results are known.

## 9 CONCLUSIONS

- 9.1 It is proposed to develop the Site for residential housing. Further surveys are needed to properly assess this Site, in particular for bats and reptiles. An in-season walk over of the Site is also recommended to confirm the habitat quality and classifications present.
- 9.2 The Site lies within 110 metres of a Special Area of Conservation. Recommendations are made to ensure the integrity of the SAC is maintained. The Local Planning Authority would be expected to undertake a Habitat Regulations Assessment of the development to assess any impact upon the SAC.
- 9.3 A number of recommendations are made to ensure that Net Benefit for Biodiversity can be achieved on Site.

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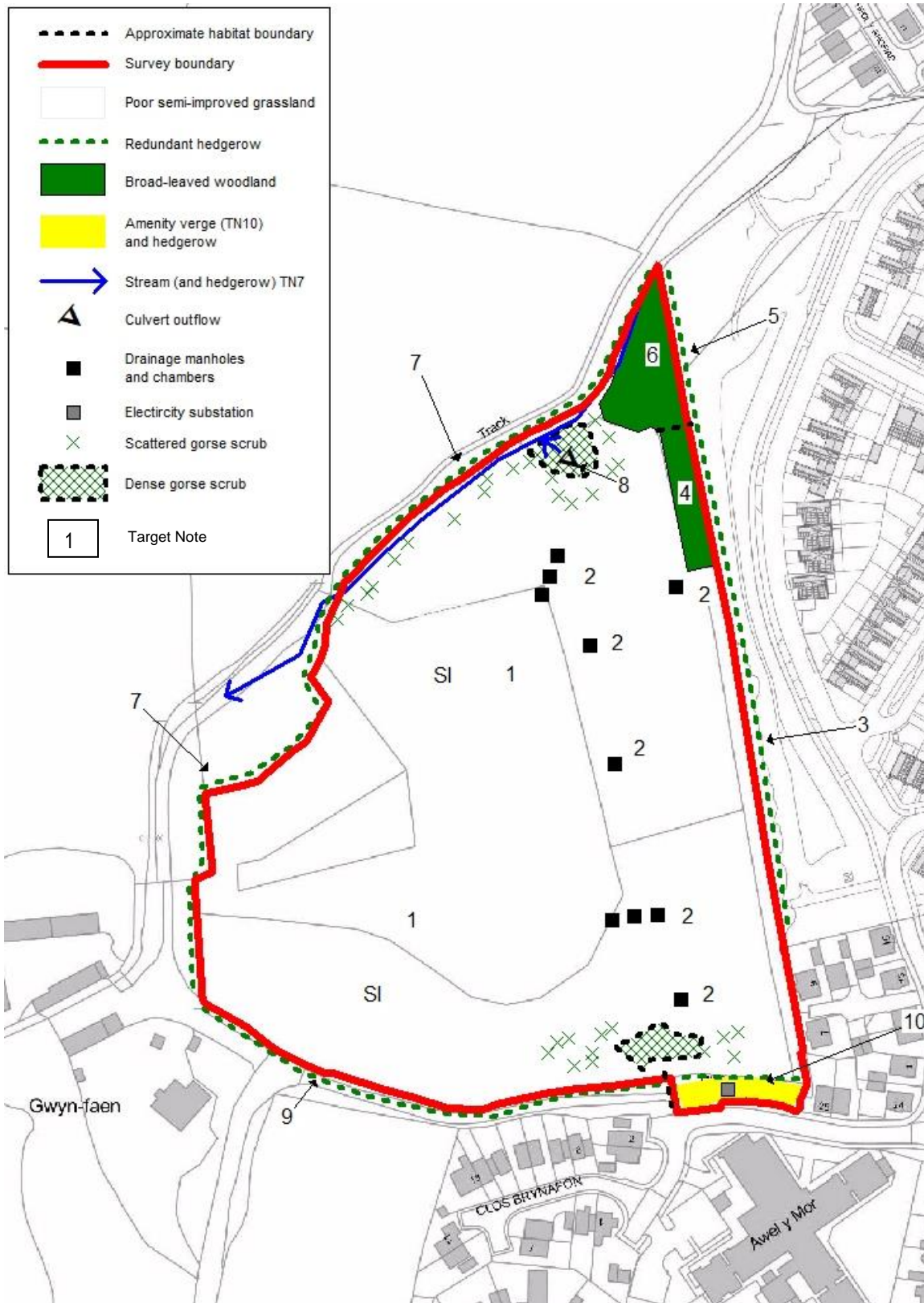
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Hawkeswood Ecology – January 2024

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**FIGURE 1**  
**PHASE 1 HABITAT MAP**

Preliminary Ecological Appraisal, Gwynfaen Phase 2, Gorseinon.  
 Hawkeswood Ecology – January 2024



**APPENDIX 1**  
**DAFOR SCALE OF COVER ABUNDANCE**

The DAFOR scale is used as a simple measure of cover abundance for individual plant species within a habitat. The scale is as follows:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare
- (L Locally – sometimes used as a prefix to the above)

**APPENDIX 2**  
**PHASE 1 HABITAT SURVEY TARGET NOTES**

1. Wet sheep grazed pasture. The land has been agriculturally modified and is now poorly managed by sheep grazing. Dominated by grasses with soft rush abundant in wetter areas the broad-leaved species present are largely typical of poorly managed modified grassland; gorse is locally frequent in areas. Species recorded were:

| <i>Species</i>       | <i>Frequency</i> |
|----------------------|------------------|
| Annual meadow-grass  | LF               |
| Common bent          | LA               |
| Common cat's ear     | O/LF             |
| Common chickweed     | O                |
| Common dock          | O                |
| Common sorrel        | O                |
| Creeping bent        | LA               |
| Creeping buttercup   | F/LA             |
| Creeping cinquefoil  | O                |
| Creeping thistle     | LF               |
| Crested dog's tail   | A                |
| Daisy                | A                |
| Dandelion            | F                |
| Floating sweet-grass | LF               |
| Glaucous sedge       | LA               |
| Gorse                | O/LF             |
| Jointed rush         | R                |
| Lady's smock         | LF               |
| Lesser celandine     | O                |
| Lesser spearwort     | O/LF             |
| Marsh ragwort        | O                |
| Meadow buttercup     | O                |
| Perennial rye-grass  | A                |
| Red fescue           | LF               |
| Self heal            | O                |
| Soft rush            | F/LA             |
| Spear thistle        | O                |
| Yorkshire fog        | F                |

2. Drains and underground tanks, presumably associated with foul water drainage, a number through the field.
3. Hedgerow, on a bank and unmanaged, has an associated ditch which is filled with litter and silt and not supporting aquatic vegetation. Access was limited by sheep netting fenceline. Canopy trees include common oak and sycamore with shrubs dominated by gorse, hawthorn and holly. The ground flora was dominated by

competitive species such as bramble and bracken. Note; Japanese knotweed has been reported from this survey but was not visible in the current survey. Species recorded were:

| <i>Species</i>     | <i>Frequency</i> |
|--------------------|------------------|
| Bracken            | LA               |
| Bramble            | A                |
| Common bent        | A                |
| Common oak         | F                |
| Foxglove           | O                |
| Goat willow        | F                |
| Gorse              | O/LF             |
| Hart's-tongue fern | O                |
| Hawthorn           | O                |
| Holly              | O                |
| Ivy                | A                |
| Male fern          | O                |
| Marsh thistle      | O                |
| Rough meadow grass | O/LF             |
| Soft rush          | O                |
| Sycamore           | O                |

4. A small area of the hedgerow that has been fenced against grazing and forming a scrub linear woodland area. The canopy is poorly formed of hedgerow trees as in TN3, with goat willow and sycamore plus occasional ash. The shrub layer is dense and dominated by locally frequent gorse with occasionally occurring elder, goat willow and holly. The ground layer is largely shaded out with abundant bramble and ivy, bare ground and leaf litter is frequent.
5. North of TN4 the hedgerow described at TN3 continues but is open to grazing. It has deteriorated to a gappy row of trees with no shrubs present, the ground flora is representative of the adjacent field (TN1). Species noted were goat willow, sycamore and holly.
6. Undergrazed open woodland consisting of mature goat willow and ash, the goat willow collapsing. Grassland species predominant in TN1 dominate the area with abundant soft rush. Marsh ragwort occurs occasionally.
7. Redundant species rich hedgerow, gappy, unmanaged, on a bank, deep ditch with running stream. Largely a row of trees with overmature shrubs present throughout. Species noted were:

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| <i>Species</i>         | <i>Frequency</i> |
|------------------------|------------------|
| Ash                    | O                |
| Bare                   | F                |
| Bramble                | O/LA             |
| Broad-buckler fern     | O                |
| Cocksfoot              | LF               |
| Common oak             | F                |
| Crested dog's-tail     | LF               |
| Goat willow            | O                |
| Gorse                  | LF               |
| Guelder rose           | R                |
| Hazel                  | F                |
| Hemlock water dropwort | O/LF             |
| Holly                  | LF               |
| Ivy                    | O/LA             |
| Male fern              | O                |
| Perennial rye-grass    | LF               |
| Remote sedge           | O                |
| Rough meadow grass     | F                |
| Sycamore               | O                |
| Tufted hair-grass      | O                |

8. Culvert outflow, recent in origin and brick built. Approximately 6 metres from the stream at TN7 with a channel flowing to it. Surrounded by dense gorse growth.
9. Redundant hedgerow, developed as a woodland on a bank along footpath on the western boundary. Unmanaged with few shrubs, canopy mature common oak and ash (showing evidence of dieback). The ground flora is largely shaded out with much bare ground. Species recorded were:

| <i>Species</i>     | <i>Frequency</i> |
|--------------------|------------------|
| Ash                | O                |
| Bare               | LF               |
| Bramble            | F-LA             |
| Broad buckler fern | O                |
| Cocksfoot          | O                |
| Common oak         | F                |
| Creeping buttercup | F                |
| Dandelion          | LF               |
| Hart's-tongue fern | LF               |
| Ivy                | A                |
| Lesser celandine   | O/LF             |
| Male fern          | O                |

10. Amenity verge and hedge alongside Brynafon Road. Heavily disturbed and parked on with parking bays and a small substation building. The canopy trees are common oak with hawthorn, holly, goat willow and gorse forming a gappy and incomplete shrub layer. Species noted were:

| <i>Species</i>      | <i>Frequency</i> |
|---------------------|------------------|
| Bird's-foot trefoil | O                |
| Bramble             | LF               |
| Cocksfoot           | LA               |
| Common oak          | F                |
| Common vetch        | O                |
| Goat willow         | O                |
| Gorse               | O                |
| Hawthorn            | O                |
| Holly               | O                |
| Pendulous sedge     | R                |
| Perennial rye-grass | A                |
| Red fescue          | LA               |

**APPENDIX 3**  
**LIST OF PLANT SPECIES RECORDED IN THE SURVEY**

| <i>Species</i>         | <i>Scientific Name</i>          |
|------------------------|---------------------------------|
| Annual meadow-grass    | <i>Poa annua</i>                |
| Ash                    | <i>Fraxinus excelsior</i>       |
| Bird's-foot trefoil    | <i>Lotus corniculatus</i>       |
| Bramble                | <i>Rubus fruticosus</i> agg     |
| Broad-buckler fern     | <i>Dryopteris dilatate</i>      |
| Cocksfoot              | <i>Dactylis glomerata</i>       |
| Common bent            | <i>Agrostis capillaris</i>      |
| Common cat's ear       | <i>Hypochaeris radicata</i>     |
| Common chickweed       | <i>Stellaria media</i>          |
| Common dock            | <i>Rumex obtusifolius</i>       |
| Common oak             | <i>Quercus robur</i>            |
| Common sorrel          | <i>Rumex acetosa</i>            |
| Common vetch           | <i>Vicia sativa</i>             |
| Creeping bent          | <i>Agrostis stolonifera</i>     |
| Creeping buttercup     | <i>Ranunculus repens</i>        |
| Creeping cinquefoil    | <i>Potentilla reptans</i>       |
| Creeping thistle       | <i>Cirsium arvense</i>          |
| Crested dog's tail     | <i>Cynosurus cristata</i>       |
| Daisy                  | <i>Bellis perennis</i>          |
| Dandelion              | <i>Taraxacum officinale</i> agg |
| Elder                  | <i>Sambucus nigra</i>           |
| Floating sweet-grass   | <i>Glyceria fluitans</i>        |
| Foxglove               | <i>Digitalis purpurea</i>       |
| Glaucous sedge         | <i>Carex flacca</i>             |
| Goat willow            | <i>Salix caprea</i>             |
| Gorse                  | <i>Ulex europeaus</i>           |
| Guelder rose           | <i>Vibernum opulus</i>          |
| Hart's-tongue fern     | <i>Asplenium scolopendrium</i>  |
| Hawthorn               | <i>Crataegus monogyna</i>       |
| Hazel                  | <i>Corylus avellana</i>         |
| Hemlock water dropwort | <i>Oenanthe crocata</i>         |
| Holly                  | <i>Ilex aquifolium</i>          |
| Ivy                    | <i>Hedera helix</i>             |
| Jointed rush           | <i>Juncus articulatus</i>       |
| Lady's smock           | <i>Cardamine pratensis</i>      |
| Lesser celandine       | <i>Ficaria verna</i>            |
| Lesser spearwort       | <i>Ranunculus flammula</i>      |
| Male fern              | <i>Dryopteris filix-mas</i>     |
| Marsh ragwort          | <i>Senecio aquatica</i>         |



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|                     |                              |
|---------------------|------------------------------|
| Marsh thistle       | <i>Cirsium palustre</i>      |
| Meadow buttercup    | <i>Ranunculus acris</i>      |
| Pendulous sedge     | <i>Carex pendula</i>         |
| Perennial rye-grass | <i>Lolium perenne</i>        |
| Red fescue          | <i>Festuca rubra agg</i>     |
| Remote sedge        | <i>Carex remota</i>          |
| Rough meadow grass  | <i>Poa trivialis</i>         |
| Self heal           | <i>Prunella vulgaris</i>     |
| Soft rush           | <i>Juncus effusus</i>        |
| Spear thistle       | <i>Cirsium vulgare</i>       |
| Sycamore            | <i>Acer psuedoplatanus</i>   |
| Tufted hair-grass   | <i>Deschampsia cespitosa</i> |
| Yorkshire fog       | <i>Holcus lanatus</i>        |

**APPENDIX 4  
PHOTOGRAPHS**



TN1 looking west, TN9 to left



TN1 looking to hedge TN7.



Gorse scrub on TN1 looking to Gwynfaen Phase 1 development.



Looking north along hedge at TN3.



Small linear developing woodland (TN4)



Under grazed open woodland at TN6.



Hedge at TN7.



Stream associated with TN7



The hedge bank at TN6



Views of hedgerow at TN7, to north above, to west below.



Evidence of construction drainage works (TN2).



Culvert exit, TN8





Wet area of TN1, soft rush with grasses.



Southern hedgerow at TN9.

# HAWKESWOOD ECOLOGY

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